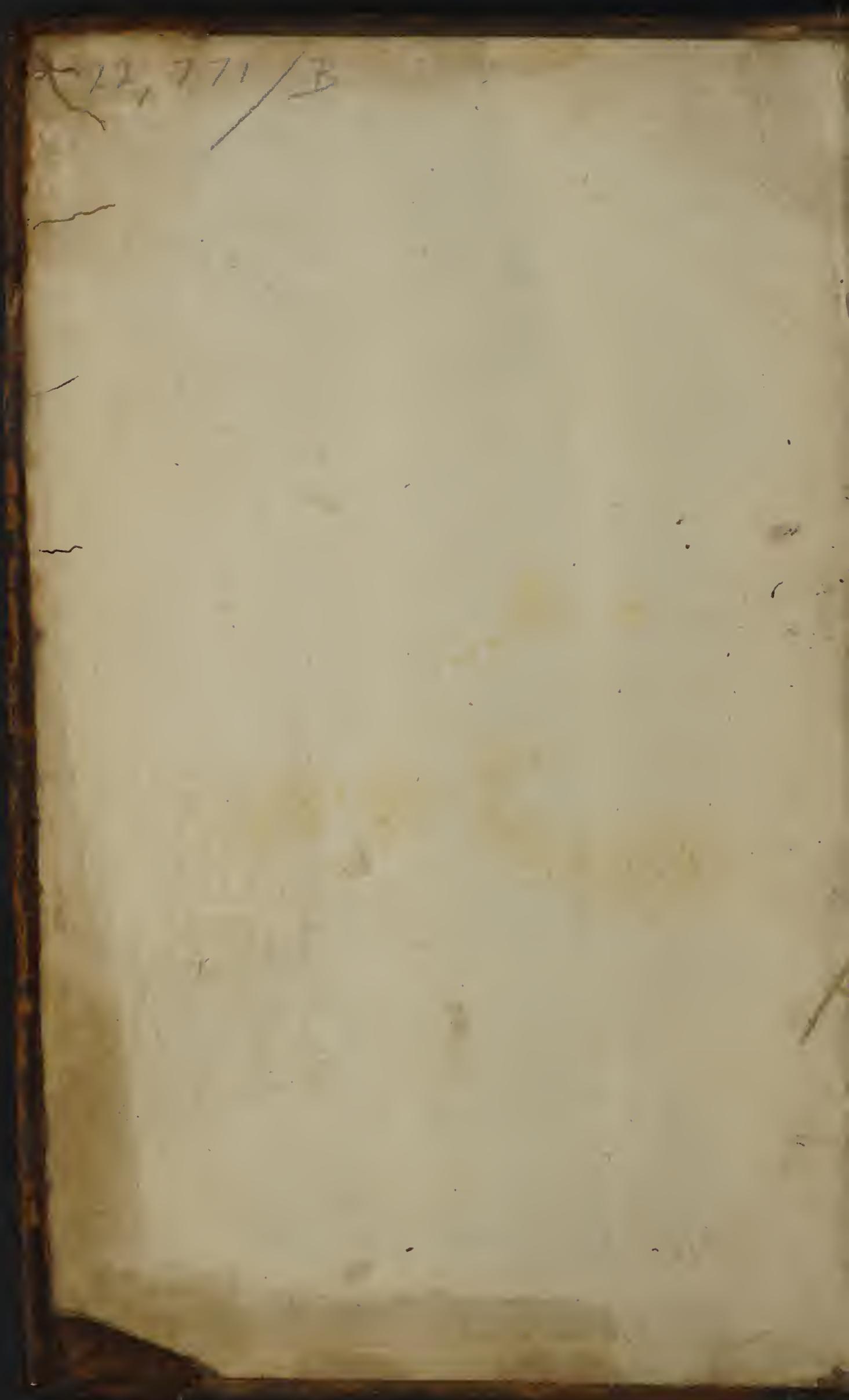


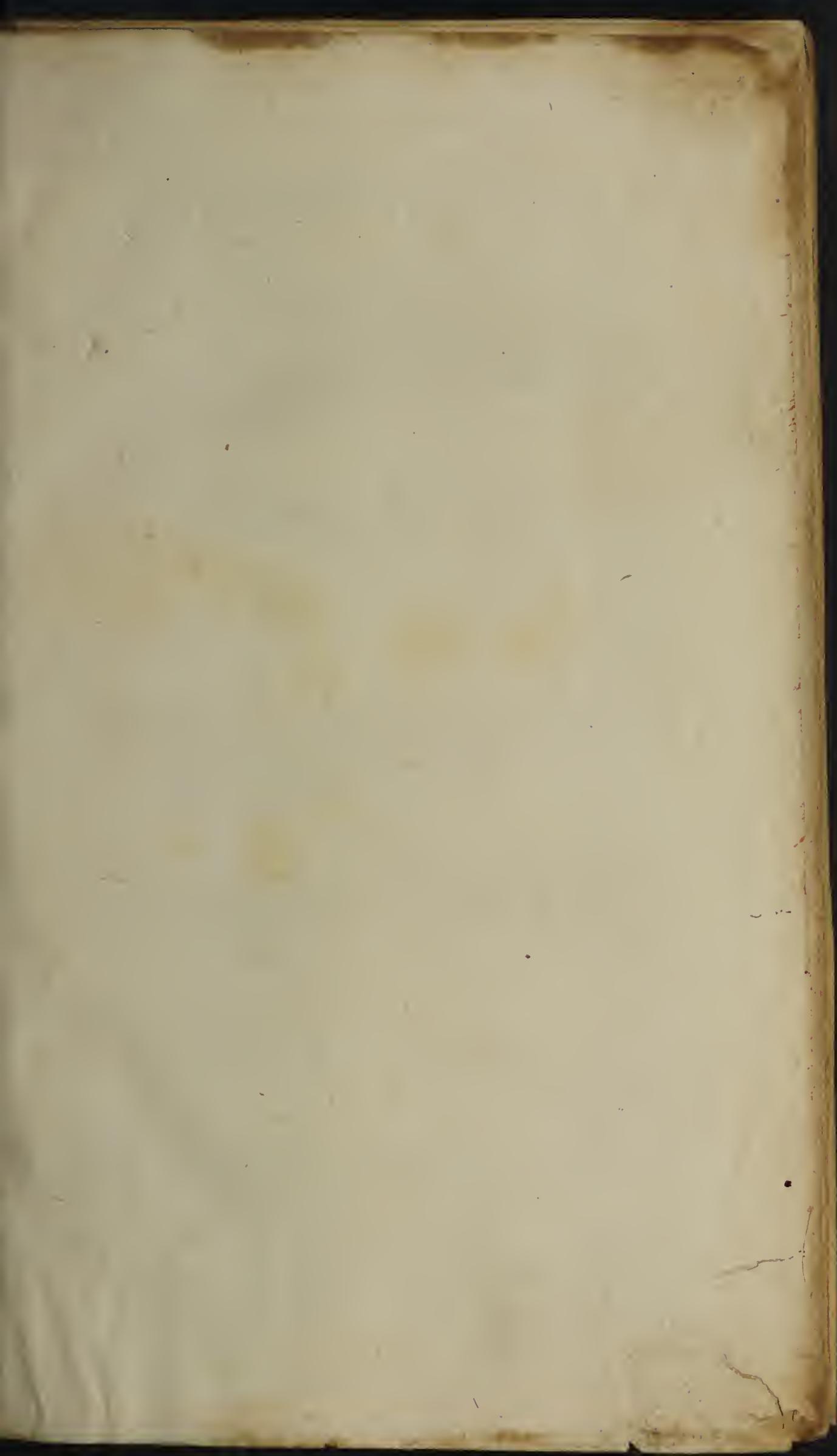
FLOYER
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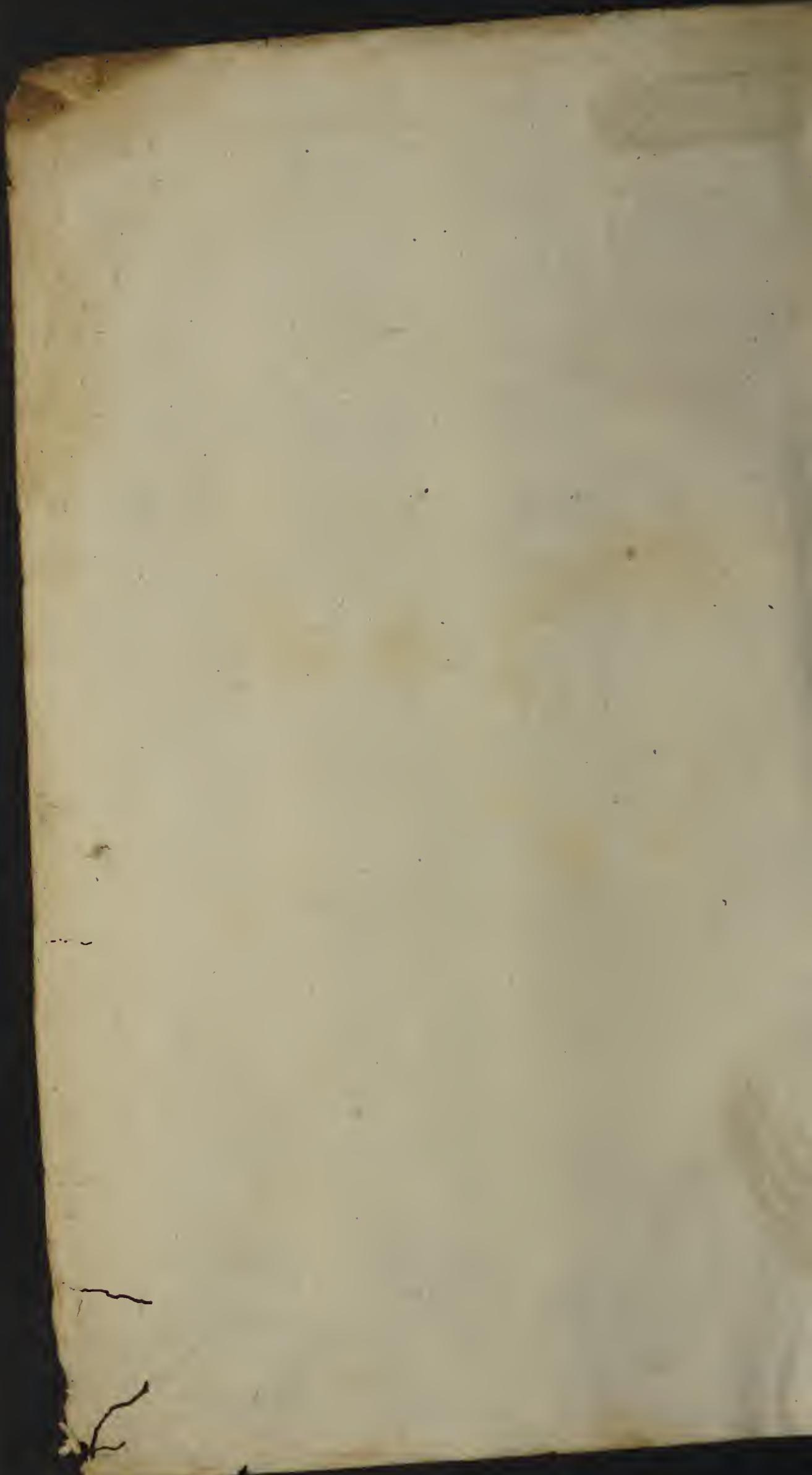












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Tractatum hunc cui Titulus
THE
PRETERNATURAL STATE
O F
Animal Humours, &c.

Dignum judicamus qui Imprimatur.

Samuel Collins, Præses.

Tho. Burwell, }
Rich. Torlesse, }
Will. Dawes, }
Thom. Gill, }
Censores.

Dat. in Comitiis Censoriis
ex Ædibus Collegii nostri,
Dec. 6. 1695.



THE
 Preternatural State
 OF
 ANIMAL HUMOURS
 DESCRIBED,
 BY THEIR
 Sensible Qualities,

Which depend on the different degrees of their *Fermentation*. And the Cure of each particular *Cacochymia* is performed by Medicines of a peculiar *Specific Taste*, described.

To this Treatise are added

TWO APPENDIXES.

- I. About the Nature of *Fevers*, and their Ferments, and Cure by particular *Tastes*.
- II. Concerning the Effervescence and Ebullition of the several *Cacochymia's*; on which all *Inflammations*, *Tumours*, *Pains*, and *Fluxes* of *Humours* depend; especially those in the *Gout* and *Wishma*; and the particular *Tastes* of the Medicines curing *Ebullitions*, are described.

By the Author of the *Φαρμακο-Βιζαντινο-*

L O N D O N,

Printed by *W. Downing*, for *Michael Johnson*. And are to be Sold by *Robert Clavel*, *Sam. Smith*, and *Benjamin Walford*, in *St. Paul's Church-Yard*, 1696.

**ENTOMOLOGICAL
MEDICAL**

TO THE

Much Honoured

Sir Charles Holt, Bar^{t.}

at *Aston in Warwick-shire.*

Sir,

 OUR great Skill
and Judgment in
the Practice of
Physick, is so well
known to all Your Coun-
trey, as well as to many
of the Learned'st of Our
Faculty, that I can need no

Apology

The Epistle Dedicatory.

Apology for the Dedication of a Physical Treatise to You.

If I Reflect on those Favours I have received from Your Honoured Family, they may justly claim this Expression of my Gratitude for Them: But I think my self most particularly Obliged to make this Publick Acknowledgement of those great Advantages I have had by Your Learned Conversation.

Your Chymical Experiments have given me clear Notions

The Epistle Dedicatory.

Notions of the *Principles*
of many particular *Bodies*,
and their *Sensible Qualities*,
by *Anatomical Dissections*.

You have procured for
me some *Animal Humours*
to Tafte and Examine; and
by Your *Microscopes*, I have
observed more of the *Con-*
sistence of Fluids than I could
otherways have known.

These *Notions* which I
here present You, were
the Subject of our fre-
quent Conferences; and I
never liked any of them so
well as those Your Judg-
ment approved of.

When

The Epistle Dedicatory.

When Your Kindness to
Your Neighbours, or Cha-
rity to the Poor, Obliged
You to prescribe Physick,
(which frequently You
do) I have observed ,
when I was called to any
Consultation with You ,
Your exact Judgment in
distinguishing the nicest
Cases, Your Rational Pre-
scriptions , grounded on
the true Indications, taken
from the History of the
particular Case, and di-
rected against the Cause
of the Disease ; and also ,
Your great Value for
Simple

The Epistle Dedicatory.

Simple Medicines, prescribed in their due *Quantity*; and I can most truly affirm, That a great Success always attended this rational Practice.

Sir, Your exact Judgment in *Physick* deserves the highest Expressions of Esteem from the most Ingenious Writers in our *Art*; but I must depend on that great Candor and Civility You constantly express to Our whole Faculty, for Your Accepting of the Patronage of these *Papers* which are
(a) Pre-

The Epistle Dedicatory.

Presented by Him who
has a real Value both for
Your *Vertue* and *Learning* ;
and who am,

S I R,

*Your most Humble
And Faithful Servant,*

JOHN FLOYER.

Lichfield,
July 26
1695.

THE

THE PREFACE.

IT is very reasonable, That the present Age should admit all the sensible Observations made on Human Bodies by the preceeding. And those it ought farther to explain and illustrate by the Philosophy of the present times; for that of every Age soon alters, and the Variety of Hypotheses, and Terms, confounds all Ordinary Readers; and the present being so extravagantly different from those of Ages very remote, the Old Authors become most unacceptable to the Moderns; but they who are conversant in all the Natural Phænomena will easily take the Sense both of the Old and New Writers, and give a candid Censure of Both.

My Design in this Treatise, is, To explain Animal Humours by the Observations given of them by the Ancients, as well as by those Improvements made by Modern Philosophy, Chymistry, and Anatomy.

The Ancient Physicians explained Animal Humours by sensible Qualities; and also their Morbid State by the same.

(a 2)

By

The PREFACE.

By the Touch they explained the Heat, which shews us the high degree of Fermentation in our Humours; and the Cold intimates the Depression of our Natural Fermentation.

By the same Sense they observed the Moisture, by which we understand the Fulness of the Habit of the Body, and intimates a Plethoric State of Humours; and the Dryness of our Bodies is evident in thin, lean Habits, where the Nutritious Juyces are deficient.

Because a high Fermentation or Digestion may happen in a full, moist Habit, or a lean, thin One, and a low Fermentation may happen in both, they have therefore observed various Compositions of our Constitutions, not dis-agreeable to the Nature of them, which depend on the particular Digestion, and quantity of our Humours, and not immediately on any Mixture of Qualities and Elements; for particular Bodies, such as Plants and Animals, cannot be explained by those general Elements, which constitute the great Mass of Matter in the World; but both have their Origin from some Matter prepared.

By Fermentation or Digestion, Plants theirs from a Bituminous Nutriment; and Animals theirs from an Albuminous Liquor.

Chyle was not esteemed by the Ancients any of the Humours; but from it they deduced the several Humours constituting the Blood.

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The P R E F A C E.

The Red Part of Blood they most particularly called Blood, which tinges the whole Mass, and makes the Blood and Face florid. They described it as hot, moist, and sweet; and by these contrary Tastes, viz. the Cold, the Dry, the Bitter, they used to correct it.

The Choler they observed by the Yellowness in the Arterial Blood. They described it as hot, fiery, bitter, acrid, and dry; and to correct it, they used the Cold and Moist Tastes: But we observe, as the Salso-Acid of Urin corrects Coloquintida Bitterness, so the Salt of Blood and Chyle alters the Taste of the Choler mixed with both, and makes it sweet or insipid; and Lixiviums have the same effect on Choleric Humours.

The Bilis Nigra made the Body, and Blood, and Spleen black, cold, dry, and Humours acid; and by the warm, sweet and humid Tastes they corrected it. They observed that Blackness was given to Oyly Humours by Adustion.

Phlegm was described, as the coldest Humour, sweet, and moist, and preternaturally acid, and salt; and these they esteemed the Matter of all Defluxions, as, in reality, the lacteal and serous Lympha's be; but the sweet Phlegm is the chylous Liquor. The hot and dry Tastes are contrary to Phlegm.

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The PREFACE.

*They observed, That Heat corrects Cold ;
Moisture, Dryness ; and sweet and oyly things,
the Acerbity and Austerity of Humours.*

*Though the Serum and fibrous Cake of the
Blood were the chief Parts of the Mass of
Blood, and well known to the Ancients, yet it did
not agree with their Hypothesis to make them
Principles of the sanguineous Mass ; but the
mentioned Humours, by exceeding in quantity
or quality, produced these several Cacochymia,
and Defluxions of Humours.*

*The Old Writers wanted a full Knowledge
of Fermentation, by which the chief morbid
Alterations are produced in the Humours ; and
they attributed their preternatural State either
to Crudity of Digestion, or Adustion.*

*There is a remarkable Instance in Galen,
which shews most plainly a Notion, not much
different from Wine, about the Preparation of
our Humours, viz.*

*The Blood is in the middest of those Humours
we call biliary ; and those whose Genus is called
by one Name, the crude Humour or Phlegm ;
for they are produced by over-digestion of
Blood ; but these by its imperfect Digestion ;
and there are innumerable differences of both
kinds. And in another place he asserts, That
both Biles are from an Excess of Heat, and
Acidity from Indigestion, and Saltiness from
Putrefaction.*

The PREFACE.

A pure Temperament is only an Idæa of Fancy ; but that which comes nearest to it, is the sanguineous Constitution, in which there is the most exact Digestion of Humours ; and because there is also the greatest Sweetness of them, there is generally a Fulness of the Habit of the Body from the quantity of Nutriment, and a Floridity in the Face from the good Digestion of the Red part of the Blood ; and here the Nutritious Humours are most free from those ill qualities, which make them unapt to assimilate, or which stimulate the Sensible Parts to evacuate them out of the Body.

The various natural Constitutions or Qualities in Wines, resemble the various Temperaments of our Humours, which, like them, depend on some certain degree of Fermentation natural to both ; and because that degree of Digestion causes sometimes the watery or slimy, sometimes the acid or acerb, or the oyly Sweetness, to predominate, the Ancient Writers believed that this depended on the greater Mixture of some of the Elements.

The Crude Wines, are the Waterish, the Austere, the Acerb, the Pendulous or Slimy, the New, Sweet, Flatulent ; but those Wines which depend on a very high Digestion of vegetable Juyces, are the bitter Wines, the old, hot, spirituous and sharp ; the fæculent, viscous or thick ; the fragrant or fœtid. Many

The P R E F A C E.

Many of these ill qualities are produced in Wines by long Keeping, or preternatural Preparations of them.

By a weak Fermentation a pendulous Sliminess is produced, which answers a pituitous State, or an Acerbity, which resembles the Tartar of our Humours, or Waterishness, which is like the Serosity of our Blood.

By over-Fermentation, or long Keeping, Wine becomes bitter, as the Cæcum; sharp, as in Hock, like the vitriolic Acidity; they grow thick, like the Viscidity of our Humours; or fœtid, like the putrid State of them.

These are the preternatural States of Wines, and Animal Humours, occasioned by various Fermentations, which Galen observed, when he explains the Alteration of Humours by new, sweet Wine fermenting by its own Heat; and he compares the Effervescence on the Wine to Choler, and the Fæces to Melancholy.

Many Phænomena may more easily be explained now, than they could be in former Ages, when the Circulation of Humours, the fermentative Dissolution of our Meats, and the Defluxions through particular Glands, were unknown.

The Motion of particular Humours was accounted for, by the Old Writers, by the Attraction of Parts, which drew their like; but the Pulse, which circulates several Humours,

as

The PREFACE.

as well as the Blood, better explains all the Motion of Humours.

Galen observes Two Species of Styptics; and that the Styptic Quality is greater in the Acerb, than the Austere; but the Explication of the Virtues of Specific Medicines he imputes to their Substance, which may be more easily made by the particular Taste of them, which raises or depresses the Fermentation of Humours, and they frequently have a Similitude, or Contrariety to the Secretitious Humours in Taste and Quality.

The Ancients imputed Sanguification to the Liver; but we, more properly, to the Gall, and a Mixture of the Salt Lympha's, and also a long Circulation with the Blood it self.

The Digestion of Meat was explained by Heat, which the Moderns more clearly deduce from a Fermentation which half putrefies the Food, and dissolves it out of its hollow Fibers, whether they be Animal or Vegetable; for it is their Juyces chiefly which are our Food; for the solid Parts turn into Excrements.

But the best Explication we can yet give of the Vital and Animal Spirit, is not much different from that of Galen, who affirms, That the Vital Spirits are bred in the Arteries and Heart, and that the Matter of them is from the Air inspired, and the Vapours of the Blood,
and

The PREFACE.

and that the Animal Spirits are made out of the Vital.

This Hypothesis is more fully explained in another Book ascribed to Galen, de usu Respirationis; Constat autem vires corporis esse ex nervorum tensione, causa autem tensionis nervi nulla est alia quam spiritus nervum inflans — spiritum autem voca, non solum vaporem sanguinis, sed etiam aerem inspiratum, qui ei admiscetur.

The innate Heat differs not from the Vital Spirit, which he deduces from an unctuous Humour in the Blood, after the same manner as Flame is produced from the Oyl of a Lamp, and both are in a continual Motion, like the Water of a River.

All the Eructations he imputes to the Air, which, mixed with our Meats, create Wind, and this Air passes included in the Pores both of our solid and liquid Meats; and this, upon Fermentation of our Food, is intermixt with its light or volatile Parts, and gives them that Elasticity observable in all fermented Liquors; and these Elastic Particles give a strong Pungency to the Taste, and a strong Odor to the Smell: These rarefie fermented Liquors into Bubbles, and give the great force in breaking their Vessels; and these easily evaporate into Air, having that naturally in their Mixture; but

The PREFACE.

but that the Spirits are not purely Aerial, is evident, because they both Smell and Taste of their Vegetable. These Spirits we artificially separate in Distilling Brandy Spirits, which are evidently light, oyly Parts mixt with a volatile Acid.

Windy Spirits we commonly experience upon the Digestion of our Meats in the Primæ Viæ, and there we feel Inflations, and find windy Bubbles in the Contents of the Intestines; and we observe no Liquor so full of them, as the fermented be.

All spirituous Liquors of Vegetables inflame our Animal and Vital Spirits, by producing an Effervescence and Heat in the Blood, and some Affection in the Nerves, of Tremor, Stupidity, or Giddiness. And since our Juyces are made of the Vegetable, they are probably fermentisble like them.

The Semen puts Females into a Fever upon Impregnation; and all Animal Humours which poyson, are putrefying Ferments. The Eggs of Insects ferment the Juyces of the Plants, into which they are inserted; and there are many Poysonous Plants which certainly affect both the Blood and Spirits of Animals, which produce both Fever and Delirium. The greatest Poyson for Darts, is believed to be made of putrid Humours.

It

The PREFACE.

It seems impossible to the Ancients, to impute the sudden Running of Pains to any other Cause ; but some of our Humours rarefied into Spirits, or Vapours. Melancholy Distempers are deduced from Spirits drawn from that Cacochymia. The Phrenitis from Choleric Spirits, and the Epilepsie from Fumes.

As to the use of the Brain, Galen observes, That the Skins, and outward Part of the Brain, may be cut away without loss of Sense or Motion ; but when the Medullary Part of the Brain or Nerves is wounded, both perish.

He asserts, That the Nerves bring the Faculty of Motion to the Muscles, by this Experiment ; If a Nerve be cut, or the Spinal Marrow, all the Parts below the Incision lose their Sense and Motion, but those above preserve it.

He was as much perplexed about the Porosity of the Nerves, as the Moderns ; but neither can otherways explain the Diseases of the Nerves, than by supposing some Aerial, and innate Animal Particles, like Vapours, passing through the Nerves, to give them a Tension. And as no Age could ever doubt of the Passage of the Chyle into the Blood, before the Discovery of the Laetœals ; so we are forced to confess the Contents of the Nerves, though we can no way discern them ; for, upon the Death of an Animal, the Spirits may readily sink into the Muscles,

or

The PREFACE.

or Veins, or Lymphatics, and Glandules; or else be so Aerial, as many Liquors be, which evaporate upon the least approach of Air; or else their Minute Canals suspend their Liquors, as small Glass-Pipes do: But it seems most probable, That proper Experiments have not yet been made, by Ligature or Incisions, in Living Animals, which might demonstrate the Nervine Lympha; and it is impossible, at present, for us otherwise to explain the Nature of the Spirits, than by comparing them to Air or Fire, till we can, by some lucky Experiment, discover the Contents of the Nerves, and their particular Qualities.

I have added Two Appendixes to this Treatise of Animal Humours; The First describes the Nature of Fevers, and their Ferments; and the Second deduces many Diseases from the simple Ebullition, Effervescence or Orgasmus of the Blood, on which most Inflammations, Tumours, Pains, and Fluxes of Humours, depend; and without a due respect to that Effervescence, none of the mentioned Diseases can be rationally cured. In the ensuing Treatise I have endeavoured to explain the Opinion of the Ancients, in all their Discourse of Fevers; but we are obliged to the Ingenious Car. Piso, for giving the first hint of Diseases depending on an Effervescence of the Serum; but

The PREFACE.

but that wanted a farther Explication, because he knew not the Circulation of Humours, nor the Use of the Glands, nor the true Nature of the Serum of the Blood, and that the Effer- vescence is in the Mass of Blood, and the Se- rum has only a violent Motion given by the Ebullition, which forces it to pass those Glands, through which the Fluxion is made; and that Pains cause Fluxions, only by stopping the Cir- culation of Humours, by contracting the Vessels, by help of the Convulsed Nerves; and that all Tumours happen by the Obstruction, or Stag- nation of Humours in the Circulating Vessels.

Books



Books Printed for, and Sold by R. Clavel, at
the Peacock in St. Paul's Church-Yard.

THE Church History clear'd from the *Roman Forgeries* and *Corruptions* found in the *Councils* and *Baronius*: In Four Parts. From the Beginning of Christianity, to the end of the Fifth General Council, 553. By *Thomas Comber, D. D. Dean of Durham.*

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What

What Mistakes have happened I desire may be
corrected by the Errata's here annexed.

¶ Ag. i i. l. 2. it ought to run thus, The Fat is produced from
the Buttery part of Chyle. p. 26. after, and that depends
on, is omitted in the last Line secrētitii. 33. l. 18. the stop
after sometime. 43. l. 6. so they are, r. which are. l. 11. cold
not old. 44. l. 21. dele as in Rbue. 45. l. 2. r. Cure instead of
are. l. 11. one dracbm not one Ounce. l. 19. Catchup, divide it
from Mango. l. 48. omit the Comma betwixt Milk and Water.
49. l. 13. for which Flames, r. with Flannel. 53. l. 10. dele so.
66. l. 18. r. pungent. 83. l. 25. r. compare. 95. l. 21. r. Hog
Fenil. 96. l. 20. r. acid not acrid. 102. l. 16. r. for not fat. 107.
l. 25. r. rapid. 112. l. 22. r. fat Cows, not Faulcon. 114. l. 14.
r. Flowers, not Flames. 117. l. 10. no breach. 127. l. 15. r. soon,
not some. 129. l. 1. r. the. 155. l. 24. r. are. 157. l. 17. r. preter,
not pretty. 171. l. 8. r. Stomach, not Sumach. 181. l. 2. r. Onions,
not Crocus. 188. l. 24. r. from, not above. 199. l. the last. r. Aq.
Panatæ. 191. l. 1. r. mild, not wild. 202. l. 1. ȣigmuō̄egi. 206.
l. 22. dele as. 208. l. 28. r. of, not or. 209. l. 21. add less. 211. l.
11. r. for, not so. 224. l. 2. r. Bursa pastoris. dele and. 260. stop
after Italy, the, not they. add of after use. 261. l. 6. r. Oxymels.

Preternatural State O F ANIMAL HUMOURS described, &c.

C H A P. I.

Of Diseases in General, and
particularly of those of the
Solid Parts.

THE Ancient Doctrine of *Hippocrates*, divided the Parts of an *Animal*, into the *Containing* and *Contained*: The *Containing* are the *Vessels*, and the Parts *Contained* are the *Humours*, amongst which we reckon the *Spirits*, which are also of a *Fluid Nature*.

The *Anatomy* of an *Embryo* evidently confirms this *Doctrine*; for at its first formation and increase in the *Egg*, there appears nothing but *Humours* and *Membranes* containing them, which are plainly of a *Nervous Nature*.

A

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The first *Stamina* which appear in an *Embryo* after Incubation, are probably the *Arteries*, which have some *Pulse*; and from these arise all the *Viscera* and *Vessels*, as *Veins*, *Lymphatics*, *Nerves*, and *Glandules*.

The *Veins*, in which the thicker Mass circulates; the *Lymphatics* into which the *Serum* of the *Blood* is received from the *Arteries*: The *Glands* (which are *Conglomerate*) are *vascular*, and are prolongations of the *Arteries* designed for the secretion of *Humours*; the *Brain* is also *vascular*; and the *Nervous Fibrillæ* also, like the other *Lymphatics*, receive a clear *Lympa* from the *Arteries*, and seem to return their *Nervous Lympa* by the *conglobate Glands* into the *Lymphatics*; the substance of the *Spleen*, *Kidneys*, and *Liver*, is also *Glandulous*, arising from the *Arteries*.

Since the *Arteries* not only appear first in an *Embryo*, but also they supply all the other *Vessels* with their several *Liquors*, I do not improbably assert, That they are the Root of all the *Animal Vessels* and *Solid Parts*.

The *Fibrillæ* of the *Brain* compose the several *Membranes* of the *Body*, which cover the *Vessels*, *Viscera*, and constitute the substance of the *Lungs*, *Guts*, *Stomach*, *Skin*; and the *Flesh* of all the *Muscles* is made up of these *Membranous Fibers*, which their *Membranous Tendons* evidently prove. Nothing is observed

ved in an *Embryo*, more hard, firm, and solid, than its *Membranes*; so that its *Bones*, *Teeth*, *Nails*, *Hair*, and *Horns*, were at first tender *Membranous Fibrillæ*, stuffed with a *viscid Nutriment*, from which they have their *rigidity* and *hardness*; so the *Woody substance of Vegetables* is only a bundle of hollow tender *Pipes*; and after the same manner the *solidity* of the parts of *Animals* may be produced.

By the preceeding Description we may observe, that all the Parts of the Body are originally of the same *Membranous* or *Nervous* Nature, and therefore they are really to be accounted *Similar*, and from the various conformation of the *Similar Parts*, and their complications, arise all the *Dissimilar Parts*; so from the *Veins*, *Nerves*, *Bones*, *Membranes*, all the *Organical Parts* are framed, which are designed for sensible Impressions, as the *Eye*, or *Ear*, &c. or some *Animal Motion*, as the *Muscles*; or the Preparation of the *Animal Humours*, as the *Stomach* and *Guts*; or the *Secretion* of them, as the *Glandulous Viscera*.

Since all the *Animal Parts*, are either *Vessels* which make the *Solid Parts*, or else *Humours* and *Spirits*, which make the *Fluid*, I will divide all the Diseases of an *Animal* according to those Parts; *viz.* into,

1. The Diseases of the *Solid Parts*.
2. The Diseases of the *Humours*.
3. The Diseases of the *Spirits*, which are the most *Fluid*, or *Aerial Parts* of our *Humours*.

i. The *Intemperies* of the *Solid Parts*, depends on,

1. The *Humours* circulating through them, as the *Blood* and *Spirits*, and they communicate either a sense of *Heat* or *Coldness* to them. A dry *Intemperies* is only a defect of the *Nutritious Juices*, and a moist *Intemperies* a fulness of the *Nutritious Liquor*.
2. The *Humour* which nourishes the *Solid Parts*, must give them their quality with their *Nutritment*; an oyly hot *Blood* will give a *Nutritment* of the same quality: An *Acid Nutritment* will produce a *Coldness* in the *Parts*, a *Viscid Nutritment* gives a *Dryness*, and a *Serous* an *Hydropical Humour*. And since the *Intemperies* depends on those *Humours*, the correcting of their several *preternatural States*, cures all these *preternatural dispositions* of the *Similar Parts*; for these may be esteemed as *Symptoms* depending on the other, and need not be more particularly *Treated of*. But I will only add, that the *Transient Intemperies* depends on the *circulating*

culating *Humours*, and is soon altered, but the permanent, which depends on *nutriment*, more difficultly.

2. The due Magnitude of a Part, is either increased by too much *Nourishment*, or by fulness of *viscid Humours* impacted, and the due natural Magnitude is abated by the defect of the *Nutritment*, or the obstruction of the Vessels by *viscid Humours*; so that this *Species* of the *Diseases* of the *Solid Parts*, depends on the different state and motion of *Humours*, and that being altered, the *preternatural Magnitude* is Cured.
3. The natural *Cavities* of the Solid part or its Vessels, are chiefly obstructed by *viscid* or coagulated *Humours*, and on them depends the Cure of *Obstructions*, which also sometimes depends on an *External Tumour* compressing the Vessels, or the growing together of its Vessels after an *Ulcer*.
4. The *Tone* of a Solid part is altered by the *Relaxation* of its *Nervous Fibers*, which happens through defect of the *Spirits*, or the obstruction of the Vessels by *viscid Humours*; and therefore this *Diseased State* is cured by supplying the quantity, or altering the quality of the *Humours*. The curing of the vitiated

Tone of a part which depends on too much *Extension*, or *Humidity* of it, belongs to *Chirurgery*.

5. The *Continuity* of the *Solid Parts* is vitiated by the *Plethora* of *Humours*, which burst the *Vessels*; or the *Corrosive* quality, which eats them. The Cure of Wounds properly belongs to *Chirurgeons*.
6. The Natural and voluntary Motion of Parts depends on the *Influx* of *Spirits*, and other right dispositions of the *Organs*, so that all *preternatural* alterations of Motion, whether increased, lessened, depraved, or abolished, depend on the different disposition of Organs and Motions of the *Spirit*, and by rectifying them are Cured.
7. The Pain of the *Solid Parts* is the *corrugation*, or violent agitation of their *Fibers* when the *Spirits* are irritated by sharp *Humours*, or the Motion of *Humours* obstructed; from *Choler* is a hot Burning pain; a cool gnawing pain from *Acid Melancholy Humours*; a *Corrosive* pain, neither Hot nor Cold, from the *Salso-Acid Serum*; a *Distending* pain from rarefied windy *Spirits*; a Heavy Pain from *Pituitous Humours*; a Beating pain from the *Pulse* of the *Artery*; a *Tensive* pain from the distention of the Parts by fulness

fulness of *Humours*. These Diseases from Pain are onely Cured by evacuating the quantity, and altering the quality of the *Humours*. All other Pains depending on external Objects, relate to *Chirurgery*.

8. The Natural Figure of the *Solid Parts* may be altered, the Cure of which belongs to *Chirurgery*, when it does not depend on the fulness or vicious State of *Humours*.
9. The number of Parts exceeding or deficient, is properly supplied or abated by *Chirurgery*.
10. The undue Situation or connexion of Parts in *Fractures*, *Luxations*, *Hernia's*, or the *Prolapsus* of the *Anus* or *Uterus*, are to be rectified by *Chirurgical* means.

These are the chief *preternatural* Indispositions of the *Solid Parts*, which hinder their Use and Actions; and they are called the Diseases of the Solid Parts, or alterations from their Natural Constitution, State, or Qualities; and I have observed, how far each of them depends on the *preternatural* State of *Humours* as their Cause, that they may be more easily Cured by removing that, and that the Species of Diseases might not unnecessarily be multiplied, but reduced to the fewest Heads.

C H A P. III.

Of the Preternatural State of
the Humours, or the Dis-
eases of the Fluid Parts.

THE Fluid Part of an *Animal Body* is usually called the *Humours*, with which not only the *Sanguineous*, or *Chyle*, or *Lymphatic Vessels* do abound, but also all the *Nervous* and *Membranous Tubes* or *Fibrillæ*, which are filled with a *Spirituous Liquor*, which is the *Vehicle* of the *Animal Spirits*, and many other *Humours*, secreted by their peculiar *Glands* from the *Blood* or *Chyle*, are contained in their *Vessels*, or rejected by *Nature* out of the *Body*. Although these *Humours* be of different kinds in an *Adult Animal*, yet whilst the *Animalculum* begins to increase in the *Egg*, they all have their Production from the *white* of the *Egg*, colliquated by the heat of the *Hen*; and that *Liquor* which begins to circulate is *white* and *serous* at first, not unlike the *Albuminous Nutriment* by which it is increased, but by the digestive heat of the *Hen*,

Hen, and the long circulation, the several Parts of the Sanguineous Mass are produced.

The Fibrous Parts of the Blood are produced from the Viscid Particles of the Albuminous Liquor, which, upon boyling, are made thick and white, of which Colour the Fibers of the Blood appear when they are washed with Water.

The Red Part of the Blood is from the Oyly and Acid Parts long digested into a Purple Colour, and that tinges the whole Mass of Blood.

The Serum or watery Vehicle, in which the other Parts swim, is only the Albuminous Liquor less digested.

The Secretitious Humours of Animals arrive not at their Perfection in an Embryo, till after a long Circulation, Digestion, and Volatilization of their Principles, for their Spirits are poor and phlegmatic, their Choler but a little bitter, nor their Lympha very salt, nor their Blood much vitriolic; for these Qualities are the Products of a stronger Heat, and a longer Digestion.

In an Animal brought forth, the Chyle is the first and original Liquor, from which the Blood receives its several Parts.

1. Its Fibrous Parts are from the Caseous Parts of Chyle.

2. Its

2. Its Oyly Red Part from the Butyrous Parts of *Chyle*.

3. Its Vitriolic Acid from the Acid Tartar of *Chyle*.

4. Its Serum is the *Chyle* it self in a middle state betwixt *Chyle* and *Blood*, whose waterish Particles are the same as was in the *Chyle* it self.

These are the *Principles* of *Animal Humours*, out of which all the several kinds of them, according to their several degrees of Digestion or Mixture of those *Principles*, are naturally constituted and distinguished from one another.

These following *Humours* are separated from *Chyle* it self, by the *Conglomerate Glands*, and therefore have the same Mixture of *Principles*, and a like Digestion as the *Chyle* it self.

1. The *Spittle* and the *Pancreatic Fuyce*, whose *Chylous Lympha's* agree in their *Use*, *Colour*, and *Glandules*.

2. The *Lympha* of the *Guts* and *Stomach*.

3. The *Mucus* of the *Wind-Pipe* and *Nose*, and many other *Cavities*, as that of the *Joynts*, is of a more *Viscid Consistence*, useful for the defending the *Membranes* of those Parts.

4. The *Spirituous Lympha* of the *Brain*, *Eyes*, and *Nerves*, serving for a *Vehicle* of the *Spirits*.

5. The *Milk* in the *Breasts*.

6. The

6. The Seminal Lympha's in both Sexes.
 7. The Fat ~~of Chyle~~ is produced from the
 Buttery Part ~~of Chyle~~

From the Serum of the Blood, is produced
 the Salt Lympha.

1. The Lympha of the Lymphatics.
2. The Nutritious Juyce in the Amnion,
 which is Saltish, and is designed for the Nou-
 rishment of the Embryo.
3. The Salt Lympha in the Pericardium,
 necessary for the Motion of the Muscles of
 the Heart.

4. The Salt Lympha of the Eyes.

As the Milky Lympha's are designed chiefly
 for the producing of the Chyle, which is the
 first Digestion in an Animal; so the Salt Lym-
 pha's are designed for the turning of it into
 the Serum of the Blood, by its Saltness, which
 must be esteemed the second degree of Di-
 gestion in Animal Humours.

The third Digestion is when the Serum is
 fully sanguified, and the Secretitious Humours
 prepared, which require the highest Digestion,
 as the Spirits, the Semen, the Choler, and the
 Vitriolic Acid of the Blood.

From the Blood it self well digested are
 separated these two Humours.

1. The Choler, which is precipitated from
 the Blood by the Vitriolic Acid of the Spleen,
 and was its Oyl and Red Part.

2. The

2. The *Sub-acid and Slimy Humour* of the *Spleen*, which is separated by the *Spleen* from the *Viscid and Vitriolic Particles* of the *Blood*; and this chiefly serves the Separation of the *Choler* from the *Blood*; but the *Choler* is designed for the correcting the *Crudities* of the *Chyle*; and by this means the *Liver* sanguifies, and helps *Chylification*.

I have given this large Catalogue of the *Animal Humours*, that the original *Liquors*, from whence each *Secretitious Humour* is prepared, may be observed, upon whose healthful Constitution the perfect natural Temper of each *Secreted Humour* depends.

It would cause endless Repetitions to treat of the preternatural State of each *Secreted Humour*, for they have the same as their original *Liquors*, which are the *Chyle*, the *Serum*, and the *Blood* it self.

1. The *Chyle* must be well prepared by Fermentation from proper Food, and acquiré that degree of Fermentation which is natural to each *Animal*.

2. The *Chyle* ought to be well changed, and digested into *Serum*.

3. The *Serum* must be truly sanguified by a long Digestion.

4. The Quantity of *Humours* ought to be proportionable to their *Vessels*, and to be contained in them.

5. *Humours*

5. *Humours* ought to have their natural Circulations, as the *Blood*, the *Lympa*, and *Spirits*; and the *Secretitious Humours*, their full Secretion; and those that be unuseful, their expulsion out of the *Body*; and those that be useful, their return into the *Blood*, as their common Ocean; or to be preserved in their several *Vessels*.

These are the natural States of the *Humours*, which are necessary for the healthful Constitution of *Animals*, and the contrary to those many Alterations from them in an unhealthful or a diseased State; of which, I shall make the following Scheme.

First, If the *Animal Humours* are ill prepared or digested, or fermented to any degree below their natural State, some of the cold *Cacochymia's* are produced; of which, I shall reckon these several degrees.

1. A *Mucilaginous State* of the *Chyle*, or other *Humours*, and this is what is commonly called the *Pituitous Cacochymia*.

2. The *Tartareous or Acerb State* of *Chyle*, or other *Humours*, and they appear in Bodies subject to *Sowreness*, and is a higher degree of Digestion than the *Pituitous State*, but both stand below the natural Digestion or Fermentation of the Meat.

3. A *Flatulent Temper* or *State of the Chyle*, or other *Humours*, when the *Spirits* of the *Chyle* are begun to separate, and have half fermented the *Chylaceous Mass*, and then it has the *State of New Drink* not fully ripened by Fermentation.

4. A *Serosity of Blood* is the natural consequent of a *Mucilaginous, Tartareous, or Flatulent Chyle*.

Secondly, If the *Chyle* be over-fermented or digested too much, it becomes *Bitter, Acrid, Rancid, or Putrid*, for we often perceive the *Meat* in the *Stomach* either *Burning, or Bitter, or Oyly, or Stinking*; and from this *State of Chyle* are produced these several degrees of the hot *Cacochymia* in the *Blood*, and other *Humours*.

1. A *Bilious, Bitter, Acrid State of Humours*; and this is known by the Bitterness in the *Stomach*, and the Abhorrence of bitter things, and the continual Heat in the Habit of the Body, as well as the Passions of the Mind, as Anger, Revenge, Courage.

2. A *Viscid State of Blood*, which produces *Pains and Inflammations*, and is evident upon *Bleeding*, when there is a defect in the *Serum*, or a *Viscid Consistence* of the *Chyle*, upon the top of the *Blood*, which is called its *Siziness*.

3. The

3. The *Vitriolic Acidity* of the *Blood*, which appears by any black *Humour* evacuated, and by the Affections of Fear and Sadness.

4. The *Serum* of the *Blood* acquires a *Salt Acrimony*, which corrodes and eats the *Gums*, infects the *Skin* with Spots, and is the *Hot Scurvy*.

5. The Putrefaction of any *Humour* is the highest resolution or dissolution of its *Principles*, from that State and Mixture which made it the *Humour* of a particular *Animal*; of which, these several Species are very evident;

1. *Diseases* depending on an inward Ferment, altered by the ill use of the Six *Non-Naturals*, as *Fevers* intermitting, with the several *Symptoms* attending them.

2. Those *Diseases* which depend wholly on an outward Ferment received into,

1. The *Flesh*; as *Hydrophobia*, by the Bite of a *Mad-Dog*; or the *Poyson* of any *Venomous Animal*, by its Bite or Sting.

2. The *Serum*, by the Infection of the touch of a *Salt Humour*, to which the *Morphews*, *Scab*, *Pox*, and *Scald-Head*, are referable, and

and *Leprosie*; all which are in some measure Infectious, by a *Corrosive Humour*.

3. All *Venomous Medicines* which corrode and ferment the *Humours*, become *Poysorous* to the *Animal*.
4. All *Malignant Fevers*, as the *Small-Pox*, *Measles*, and *Plague*, or *Pestilential Fevers*, have their original from the *Malignity* of the *Air*, and the *Poysorous Sulphurs* of the *Earth*.
5. *Worms* and *Lice* are either produced by an *Egg* received into the *Animal*, or the *Putrefaction* of its *Humours*.

Thirdly, If the *Chyle* be very plentiful, it breeds the following Diseases.

1. An over-abundance of *Milk* in the *Breasts* of Women.
2. A *Satyriasis*, or an abundance of *Seminal Lympha's*.
3. A *Fatness*, or over-growing of the habit of the *Muscular Flesh*, or the great quantity of *Fat*, both which is called an *Obesity*, or too *Fat*, with an abundance of the *Chylous Lympha's*.
4. An undue increase of the *Viscera*, or other Parts, whilst the others decay, as in the

the *Rickets*, and the *Imposthumations* of the *Viscera*, especially the *Liver*. The *Rickets* are a Species of the *Palsie*.

5. *A Plethora of Blood*:

Fourthly, If the *Chyle*, or other *Nutritious Humours*, be wanting or deficient, these several kinds of Defects are produced.

1. A Defect of *Milk* in the *Breasts*.
2. A Defect of the *Semen* in *Sterility*.
3. An *Atrophy* of the *Body*, or any part of it, or the *Viscera*.
4. A Defect of the *Saliva* in *Thirst*.

The following Diseases depend on the vitiated Motion of Humours.

All Obstructions depend on the stoppage of the Motion of the *Animal Humours* through their *Vessels*.

I. The Obstruction of the *Chyle-Vessels*, which produces the *Tumours* of the *Mesentery*, and its *Glands*.

II. The Obstruction of the *Blood-Vessels*.

1. As in the *Polypus*, and suffocating *Catarrhs*.
2. The Reflux of *Blood* is stopt in *Inflammations* and *Tumours*, *Varices*, and *Hæmorrhoids*.

III. The Secretion of *Humours* through their several *Glands* is hindred.

1. In the Jaundice the *Choler* is hindred from its Secretion.
2. In the Diseases of the *Spleen* the Separation of the *Vitriolic Slimy Humour* is stopt, and that evacuated into the *Stomach*.
3. The Secretion of the *Salt lymph* is hindred in the *Scrophula*, and in *Catarrhs*; or else of the *Milky lymph*'s in the cooler kind, and in the *Tumours* of the *Breasts*.
4. The Secretion of *Animal Spirits* is hindred through the *Glands* of the *Brain*:
In *Apoplexies*, *Lethargies*, or any other sleepy Distempers.

Fifthly, The Motion of the *Animal Humours*, which are excrementitious, are suppressed in the following Diseases.

1. In an *Ischuria*, which is a Stoppage of *Urine*.
2. In a want of *Stools*, or *Astrictio Alvi*.
3. In the stoppage of *Transpiration* or *Sweat*.
4. In a Suppression of the *Menses*.
5. In a Suppression of the *Lochia*.
6. In the long retaining of a *Mola*.
7. In the Suppression of the *Hæmorrhoids*.

Sixthly, The preternatural Evacuation of *Nutritious Humours* out of the Body, are,

1. By

1. By a continual *Vomiting*.
2. By a *Diarrhœa* or *Looseness*.
3. By a *Diabetes*.
4. By a *Ptyalismus*.
5. By a *Gonorrhœa*.
6. By the *Flaor Albus*.
7. By too much *Sweating*.
8. By an *Abortion*.
9. By an *Epiphora* or *Flux* of *Tears*.
10. Incontinence of *Urin*.

These are the *Fluxes* which cause *Diseases*.

Seventhly, The Evacuations of *Blood*, are,

1. The *Bleeding at Nose*.
2. *Spitting of Blood* from the *Throat* or *Lungs*.
3. The great *Flux* of the *Hæmorrhoids*.
4. The *Flux* of *Blood*, like the washing of *Meat*, in *Fluxu Hepatico*.
5. Too great a *Flux* of the *Menses*.
6. The *Pissing of Blood*.
7. The *Vomiting of Blood*.

Eighthly, The preternatural Evacuation of *Serous Humours* into the *Cavities* of the *Body*, are,

1. In an *Ascites*, when the Water fills the *Cavities* of the *Belly*.
2. In the *Dropſie* of the *Breast*, or *Head*, or *Testicles*, it fills those particular *Cavities*.

3. In an *Anasarca* it fills the *Muscular Habit* of the Body.

These Diseases depend on the vitiated Motion of *Animal Spirits*, and their preternatural Qualities.

First, The Motion of the *Animal Spirits* is stopt in the *Nerves* by the Viscidity of their *Succus Nervosus*.

1. In those belonging to half the *Body*, or the whole, in *Palsies*.

2. In those belonging to the *Heart*, or *Pulse*, in *Fainting*, or *Syncope's*.

3. In the *Nerves* of the *Eyes*, in a *Gutta Serena*.

4. In those of the *Ears*, in a *Deafness*.

5. In those of the *Tongue* and *Nose*, in the loss of their *Smell* and *Taste*.

6. In those of the *Stomach*, in the want of *Appetite*.

7. In the *Nerves* of the *Generating Organs*, in *Venere languida*.

8. In those of the *Oesophagus*, in *deglutitione impeditâ*.

Secondly, The Motion of the *Animal Spirits* into the *Senses* is continued longer than usual, and this *Expansion* is called *Vigilæ*, or want of *Sleep*, and depends on a hot *Flatulency*, or *Elasticity* of *Spirits*.

Thirdly,

Thirdly, The Animal Spirits are sometimes irritated, and violently agitated in particular Parts by some ungrateful Object: and this is called *Pain*:

Whose Species are,

1. *Cephalalgia*, or *Pain of the Head*.
2. *Cardialgia*, or *Pain at the Stomach*.
3. *Colica*, or *Pain in the Stomach or Guts*.
4. *Odontalgia*, or *Pain in the Teeth*.
5. *Otalgia*, or *Pain in the Ear*.
6. *Stranguria*, or *Pain in the making of Urin*, from *sharp Humours*.
7. *Calculus*, or *Pain in the Urin Passages*, from the *Stone*.
8. *Podagra*, or *Pain in the Joints*.
9. *Arthritis Scorbatica*.
10. All the *Inflammations* and *Ulcers* following them cause great *Pain*:

Whose Species are,

1. *Aphthæ*, or *Inflammations of the Mouth*.
2. *Angina*, or *Inflammations of the Throat*.
3. *Inflammations of the Uvula, and Tonsils, and Gums*.
4. *Parotis*, or *Inflammations of the Glands about the Ears*.
5. The *Inflammation of the Stomach or Intestines*.
6. The *Inflammation of the Anus, and Hæmorrhoids*.

7. The Inflammation of the Liver or Spleen.
8. Nephritis, or the Inflammation of the Kidneys.
9. Phrenitis, or the Inflammation of the Membranes of the Brain.
10. Ophthalmia, or the Inflammation of the Eyes.
11. Peripneumonia, the Inflammation of the Lungs.
12. Pleuritis, the Inflammation of the Pleura and Muscles of the Breast.
13. Inflammations of the Breasts.
14. Rheumatismus, or the Inflammations of the Muscles of the Limbs in general, or else of some particular Muscles, as those of the Hip, in the Ischias; or the Back, in Lumbago.
15. Inflammation of the Stones.

By the continuance of the Inflammations, Imposthumes and Ulcers are bred in all the Parts of the Body, the chief of which, are,

1. Vomica, or an Abcess in the Lungs contained in a Bladder.
2. Empyema, or a collection of Matter in the Cavity of the Breast.
3. Phthisis, or an Ulcer in the Lungs.
4. Dysenteria, or an Ulcer in the Intestines.
5. Tenesmus, or an Ulcer in the Intestinum rectum.

6. Ulcers

6. *Ulcers of the Eyes.*
7. *Ulcers of the Kidneys and Bladder.*
8. *Ulcers of the Anus.*
9. *Ulcers of the Viscera, as Liver, Spleen.*
10. *Ulcers of the Glands in the Scrophula or Kings-Evil.*
11. *Ulcers of the Mouth and Throat, Nose or Ears, Gums and Stomach.*
12. *Gonorrhœa, or Ulcers of the Prostatæ.*

All these *Ulcers* may conveniently be treated of immediately after the *Inflammations* of their several parts, to which each *Ulcer* must be referred.

Because the *Fever* attending *Inflammations* for the most part, though at first it occasions them, yet afterwards it depends on the *Tumour* and *Pain*; I chose to referr them to the Class of *Pains*, rather than to that of *Fevers*; and also, because many *Inflammations* depend on other causes than *Fevers*; but all are attended with great Pain.

Fourthly, The *Animal Spirits* are some time in an explosive Motion, by which they cause *Convulsions*, which depend much on the hottest Flatulency of *Humours*; as,

1. *Epilepsia* is a *Convulsion* of all the outward Parts, with a falling down suddenly.

2. *Passio Hysterica* is a *Convulsion* of the inward Parts, as the *Lungs*, *Diaphragma*, *Mesentery*, *Womb*, and *Muscles of the Belly*.

3. *Chorea S^ti Viti*, is a Species of *Convulsion* observed in the *Lameness* of Girls, before their *Puberty*, with shaking of their *Leg* and *Hand*.

4. The *Convulsions* of Children from *Pain*, as in the *breeding of Teeth*, *Gripes*, or *Worms*.

5. The *Convulsion* from *Serous Matter* in the *Heads* of Children, or the *Metastesis* of a *Malignant Fever* thither.

6. The *Palpitation* of the *Heart* is a *Convulsion* of it.

7. *Singultus* is a *Convulsion* of the *Stomach* and *Diaphragma*.

8. *Coughing* is a *Convulsive Motion* of the *Breast*.

9. *Sneezing* is a slight *Convulsion* from *Humours* irritating the *Nose*.

10. *Priapismus* is a *Convulsion* of the *Penis*, which causes *Painful Erection* of it.

Fifthly, The *Animal Spirits* have sometimes a violent, tumultuous, or restless Motion in the *Brain*, by which the *Judgment* is depraved, and the *Idæa's* confused.

1. *Muria* is a furious Motion of the *Animal Spirits*, with the *Passion* of *Anger* and *Boldness*; these *Spirits* are from a *Rancid, Cholerick Blood*.

2. *Melan-*

2. *Melancholia* is a restless Motion of the *Spirits*, joyned with the Passion of Fear and Sadness; from a *Vitriolic State of Blood*.

3. *Furor uterinus* is a *Delirium* joyned with an immoderate Appetite of *Venery*, in which case the *Spirits*, as well as the other *Humours*, are tinctured with the *Seminal Fætid Lympha*.

Sixthly, The *Animal Spirits* acquire some crude or mixt Flatuosity; or become windy, as in bottled *Liquors*, or the *Spirits* of those not fully fermented. These *Distempers* happen in a flatulent *Cacochymia*.

1. *Vertigo*, which is a vertiginous Motion of *Spirits*.

2. *Tympanites* is a permanent Inflation of the *Membranes* of the *Abdomen*, by flatulent *Spirits*.

3. *Asthma* is the Inflation of the *Membranes* of the *Lungs*, and of the *Membranes* covering the *Muscles* of the *Thorax*, but does not continue long.

4. *Incubus* is an Inflation of the *Membranes* of the *Stomach*, which hinders the Motion of the *Diaphragma*, and *Lungs*, and *Pulse*, and *Motion*, but with a sense of a weight oppressing the *Breast*.

5. A windy Inflation of the *Uterus*, after *Child-Bed*, in many *Hysterical Women*, and those

those especially who have oft Miscarried, are sensible of Wind passing from the *Womb*.

6. The flatulent *Tumours* of particular Parts.

Seventhly, The *Animal Spirits* are unfit for the Motions of Sense or Reasoning, or Memory, by their depauperated or waterish State, or some Indisposition in the Canals of the *Nervous Fibers* in all Fools, which we call *Morosis*, and the *low, phlegmatic, or waterish, or tartareous Cacochymia's*. Each *Cacochymia* produces *Animal Spirits* of a peculiar Temper suitable to it; so that by observing the *Cacochymia*, we may know the particular ill State of the *Spirits*; and this cannot be cured without altering the other. The *Spirits* are a *Secreted Humour*, and often circulating through the *Blood*; they must partake of its several *Cacochymia's*; and this Observation is most certain; *qualis chylus, talis est sanguis; qualis sanguis, talis est succus nervosus, cæteriq; omnes humores secretitii*

C H A P. III.

Of the Preparation of Animal
Humours by Fermentation.

From the *Crude* and *Watry* Juices of *Vegetables*, we prepare all our *Wines* by *Fermentation*, which dissolves the *Slimy Mucilage* of the *Grapes*, or other *Fruit*, into a more *fluid Consistence*; it separates the *Acid Particles* from the more *Earthy*, and *volatilizes* the *oleous Particles*, and unites them with the *Acid*; for we observe that all *fermented liquors* (whether from *Fruits* or *Corn*,) are composed out of a sweet rarefied and well digested *Mucilage*, and of *Acid Oleous Particles*, (which are their *pungent Spirits*,) all which being dissolved in a *Watry Vehicle*, the *fermented liquors* obtain a clear, *lympid*, and equal *Consistence*.

The Particles which compose our *Chyle*, are very like those mentioned of *fermented liquors*, and by the following Discourse it will be manifest, that the *Chyle* has its preparation by being *fermented* as other Liquors be.

Chyle

Chyle has the same Principles as *Milk*, a Viscidity from the Caseous Parts, an oyliness from the Butyraceous Parts, and an Acidity from the Tartareous, which we taste in *Buttermilk*; besides, a waterish Serosity, in which the other Principles swim and are mixed.

It is scarce doubted by any of our *Modern Physicians*, that the *Chyle* is prepared by *Fermentation*, when they consider the nature of the *Saliva*, how much it ferments *Animal Humours* when any one is Bitten by a *Mad Dog* or other *Venomous Creature*; and the most familiar use of the *Runnet* is to ferment our *Milk*, and give a strong *fætor* to *Cheese*. Besides the *Saliva*, there is observed in the *Stomach* of *Animals*, a slimy *lympa* issuing from the *Glandules* of the *Cavities* there, which being *Slimy*, *Fætid*, *sub-Acid*, or *salso-Acid*, it resembles the natural temper of the *Runnet*, and likewise its use, by being an *Animal Ferment*.

In *Birds* there are no Reliques of the former Digestion in their *Craws*, or *Gizzards*, and therefore the *lympa* of the *Primæ Viæ*, suffices for a *Ferment* without the *Acid Reliques*, and the same suffices in the first digestion of the *Succus Nutritius* in an *Embryo*.

That I may the better explain the *Fermentative Nature* of the *Saliva*, and the other *lymphæ* of the *Stomach*, I will compare it with *Barm*, which,

1. Is separated from a fermenting Liquor, and contains the Spirits of it in Bubbles; so the *Saliva* is separated from the *Chyle* new mixt with the *Serum* of the *Blood*, and from thence it has its preternatural *Acid*, *Bitter*, or *Salt* Taste.

2. *Barm* has *viscid* Parts, it smells strong, and gives a heat on the Tongue. I have Distilled a *vinous* Spirit from it, so that it contains Spirits fit to ferment. The *Saliva* is *viscid*, and gives a Milky crust, when dryed, on the Tongue; it is naturally frothy, and it much weakens the digestion to Spit much; it has no considerable Smell or Taste, because it ought to take *sapid* Particles from other Bodies in most *Animals*, but Birds who swallow whole Grains can have no Taste. Wheat Meal, with the white of an Egg, ferments in the want of *Barm*, and the white of an Egg is a *glandulous Milky lympha*.

3. The Spirits included in *Barm*, agitate the Spirits of new Drink, so the *Saliva* contains an oyly *Acid* in it, which gives it a whiteness like *Chyle*, and these *active Particles* give a *fermentative Motion* to those included in the new Meats.

This *fætor* in the *lymphæ* of the Stomach, is from the Spirits of the *Animal*, (for it resembles the Smell of each *Animal*, and no *fætor* is produced without a high *fermentation*.)

This

This therefore easily communicates its Internal agitation, (when the Food comes chewed and broken into the Stomach) to the oyly Acid Particles of the *Alimentary Mass*, whose viscid Particles are rarefied by the mentioned agitation, and the oyly Acid dissolved in the liquid part, and hence is the Colour and Consistence given to *Chyle*.

That the Meat in the Stomach is dissolved by *fermentation*, appears by the following observations.

The Contents in the Stomach, after their dissolution, strike the Nose with a pungent *Acidity*, from the volatilization of the *Tartar* of the *Chyle*.

There is also in the Contents in the Stomach a *flatulency*, and a great *fætor*, which are the natural effects of fermentations in *Vegetables*, and of *putrefaction* in *Animals*, which is the highest degree of fermentation.

We know not yet any *Menstruum* which can so suddenly dissolve Flesh Meats, but we find that they soon Putrefie, and those that be half Putrefied, are easiest digested.

As to our Drink, that is wholly prepared by Fermentation; and we find, by our Experience, that all fermented Meats and Drinks are easiest digested; and those unfermented, by *Barm* or *Leaven*, are very hardly digested.

But

But the *fermentation* of our *Chyle* will appear more evidently, by observing, that whatsoever Medicine helps the *fermentation* of Wines, those of the same nature promote also the preparation of our *Chyle*, which is by raising its *fermentation*.

1. *Calx viva* and *Gypsum* put into fermenting Wines, help their *Fermentation*, by precipitating their *Crude Tartar* which fixes the oyly Spirits, and coagulates them. After the same manner Physicians, by their fixed and *volatile Salt*, and *testaceous Medicines*, exalt the *fermentation* of the *Blood*, and free the oyls from the austere *Tartar*, with which the Medicines mentioned are coagulated, and pass off by *Stool* or *Urine*, and the same Medicines help the digestion in the *Stomach*.

2. *Aromatics*, as *Cubeb*s, *Cinnamon*, *Nutmegs*, *Orris*, or *Cloves*, are usually put into crude poor Wines, to give them more oyly Spirits, and to excite their languid Motion; and for the same end crude Wines are included in resinous Vessels; and we add *Resin*, or shavings of *Fir* to vapid Wines. These are easily turned into a flame by Fire, and these therefore more readily produce heat and ebullition in fermenting Wines, which is only a less degree of Fire, from a less intense Motion of its oyly Acid Particles.

Physicians for the same end use all sorts of Aromaticks, and Resinous Plants; that by their volatile Oyls, they might agitate and rarefie the Oylly Particles, both in the Chyle and Blood, and by that means raise their fermentations.

3. Bitter Acrid Plants help the fermentation and depuration of all Mault liquors, and therefore Mustard and Ginger are sometimes added to Beer or Cyder, to promote their fermentation; and Hops or Worm-wood have the same effect.

Our Blood and Humours are much heated by Bitter and Acrid Medicines; they excite our Appetite, and hasten the digestion of our Food, as every ones experience does evince.

4. The Greeks use Sulphur in the preparation of Crude Wines, and in many Places, the Vessels are sulphurated with Brimstone; by experience we are taught, that Metallic Sulphurs exagitate the Oyls of Animals, and thereby promote their Chylification and Sanguification.

5. Vinous Liquors abound with an Oleous Acid Spirit, whereby they much promote the fermentation of other Liquors, and for this reason vapid Wines are put upon the Lees of more noble Wines to give them a Spirit, and for the same reason we Stum our crude Wines to new ferment them, and to renew their Spirits.

In the crudities of the *Chyle*, all *Animal ferment*s are useful, as old *Cheese*, in which the *Runnet* lies: *Vinous Liquors* which have undergone a *fermentation*, are apt to produce the same in other Liquors; so *Spirituos Liquors* cause the *Chyle* and *Blood* to boil and ferment, and sometimes produce a *Fever*.

We use the inward skins of *Gizards* of *Hens* and *Pidgeons*, in which the *Animal ferment* lies, to help our digestions; we invent new *Sauces* and *Pickles*, which resemble the *Animal ferment* in Taste and Virtue, as the *Salso-Acid Gravies of Meat*; the *Salt Pickles of Fish, Anchoves, Oysters*; *Pickled Fruits*, as *Mangoes, Olives, Capers, Chatcrops*, and an *Indian liquor*; all which promote the *fermentation* of our *Meats*, and so produce a *Surfeit* sometimes; *French Wines* and *Rhenish* heat the *Blood* and ferment the *Chyle*.

The same Medicines not only ferment both the *Chyle* and *Wine*, but also the *fermentation* is restrained and stopped by the same alike.

The heat of the Fire promotes *fermentation*, and much Cold checks it; so we apply heating Medicines or Skins outwardly to a weak Stomach, and we find all Cooling things inwardly and outwardly to cause pain and gripes in weak digestions.

Acids, Fats, austere Juices, and those that are very *Mucilaginous* and *Watry*, are difficult-

ly fermented by Art, but hinder both the fermentation of *Wines* and the *Chylaceous Mass*, for these Tastes hinder the agitation of the *Oleous Acid Particles*, because they consist of Particles difficultly moved.

This fermentation by which the *Chyle* and *Blood* are prepared, may be depraved both ways, for it may be depressed under its natural State, or exalted above that degree which is suitable to the natural temper of any *Animal*, of both which Errors, and the *Cachexymia's* depending on them, I shall next discourse.

But I shall first farther observe, that though the *Chyle* is prepared by *fermentation*, yet all other humours arising from it, as the *Serum* and *Blood*, and all the *secretitious humours* from each of them; are prepared only by circulation and a longer digestion, by mixture and *secretion*; for by these they may acquire their peculiar *Crases* and *Tastes*; by the ferment of the *Stomach*, the various kinds of *Meats* are changed into the natural temper of each *Animal*, and the *lympha* of the *Stomach* has most eminently the *Specific Taste* of each *Animal*, as will appear to any person who will taste it.

If the *Chyle* be rightly *fermented*, all the humours arising from it are duly prepared; But if the *fermentation* of that is vitiated, all the

the other humours produced from vitiated *Chyle*, retain a Tincture of its defect in their preparation.

Whatsoever ferments the Meat, helps and raises the digestion of all other humours, and therefore we need not enquire for any ferment or other *digestives*, for the particular humours of *Animals*, besides those which ferment the *Chylaceous Mass*.

All the conditions requisite to a *fermentation*, are to be found only in the *Stomach*, and its *fermentation* very clearly explained, by comparing the digestion of the *Stomach* with Artificial fermentations of *Vegetables*; for we first pound the Plant which is to be *fermented*, and dilute it with Water in which some *ferment* is dissolved, and afterwards it is to be placed in some warm place till it acquires a *Vinous acid smell*, and then it is fit for the yielding a brisk inflammable Spirit.

After the same manner our Meat is chewed and swallowed into the *Stomach*, and there mixed with the *Saliva*, and the *viscid slime* of the *Stomach*, which are its *ferments*.

The *Stomach* has a gentle digesting heat from the neighbouring *viscera*, which are *Sanguineous*, whose warmth digests the Meat into a *pulp*, which smells *sub-acid* and *fætid*, and that *stimulating*, the *Stomach* excites its *expulsion*; for if it should stay longer there,

it would become *putrid*; but no more is requisite, but the loosening the natural Texture of our *Aliments*, and making the oyly *acid* parts and the *viscid* free to dissolve into an *Alimentary Tincture*, which is only the *juices* of *Vegetables* and *Animals* dissolved out of their *fibrous Vessels*, and then they will as easily *ferment* as they did in the *Plant* or *Animal* in which they were first produced. The capacity of the *Stomach* makes it fit for a *fermenting Vessel*, and its *Membranous* substance makes it fit for the *distention* necessary upon a *fermentation*, and its two *Orifices* are prepared for the letting forth of the rarefied *Spirits* in *ructus* or *windiness*, the common effects of all *fermented liquors*.

C H A P. IV.

Of the Depressed Fermentation
of Humours in General.

When a *slimy, acerb, or flatulent Chyle* is produced, and when from thence a watery *serous Blood* is digested, we must acknowledge that both the *Chyle* and *Blood* have had too weak a *fermentation*, and by that are ill prepared; of which defect we usually observe these Causes.

First, When the Meats we use have some vicious Quality, which gives the same Tincture to the *Chyle*, and that is not corrected by the Digestion, as in Meats hardly fermented, as those which have a tough consistence: All Meats of a *Watry, Mucilaginous, Acerb, Viscous, Oleous, Acid, Austere, and Fat Taste*, and such as the Meat is in any eminent quality, such is the *Chyle*; and the state of *Humours* thence arising, for we observe a *Mucilage* in crude Corn; and those *Green-sickness Girls*, who eat great quantities of *Oat-Meal*, abound with an extraordinary quantity of crude

Mucilaginous Chyle which oppresses their *Stomachs*, and stuffs their *Lungs*, and gives a great *Paleness* to the whole habit of the body.

Not only the quality of our *Diet* depresses the *fermentation* in the *Stomach*, but the quantity may be more than the *ferment* can concoct or suffice to dissolve and agitate; so by frequent *Debauches*, the *Digestion* is weakened, and after too great a fulness the *Stomach* is oppressed, and flatuosities produced in it.

Secondly, The *Preternatural* state of the *ferment* which ought to be separated from the *Chyle*, well circulated and exalted in the *Blood*, by the *Glands* of the *primæ viæ*, and to have the *fætid Animal Spirits* mixed with a *Chyleous Mucilage*, and *Tartareous acid*, whilst it retains, its healthful *Constitution*, but it is altered from this state in a depressed *fermentation*.

1. When the *ferment* of the *Stomach* is *vapid*, or less *impregnate* with the *fætid Animal Spirits*, when its *consistence* is too *viscid* or *phlegmatick*, or its *acidity* too *acerb* or *crude* and less *volatile*.

2. The *Bile* if it be *insipid*, *watery*, *viscous*, depresses the *fermentation* of the *Chylaceous Mass*; for by its *bitterness* and *acrimony*, it ought to correct the *acidities* of it, which are produced by the *fermentation* in the *Stomach*, and by the same *Tastes*, like *bitter Plants*

Plants in other Liquors help their *depuration*, and *fermentation*, and with the *Acid* unite into an *Animal volatile Salt*.

3. These ill qualities of the *Ferment* and the *Bile* depend on a *crude*, *watery*, *austere*, *mucilaginous Blood*, derived from *Parents*, or otherways produced ; for the *ferment* will retain the *crude* state and temper of the *Humours*, from which it is derived.

4. A remiss *Circulation* of the *Blood* ill digests, and worse separates the *ferment* from it.

5. *Waterish Humours*, which ought to have been separated by other *Glands*, being detained in the *Blood*, they deprave and enervate the *ferment*, which are also transmitted to the *Stomach* with it ; so by the suppression of the *Menses*, or other Evacuations, and especially by *Fevers*, and a *Catarrh*, the *Stomachical ferment* is vitiated.

6. Great Evacuations which carry off the *nutritious Humours*, weaken the *ferment*, as *Hæmorrhagies*, which *depauperate* the *Blood* by *Vomitings* and *Looseness*, which carry off the *fermenting Mass*, *Convulsive distempers*, and all *Nervous effects*, which spend the *Animal Spirits*, or divert them from the *Stomach*.

7. Some of the six *Non-Naturals* alter the *ferment*, as our *Diet*, which is mentioned

above, and Idleness, or want of Motion, hinders the secretion of the *ferment*, and distribution of the *Chyle*, from which it is prepared,

Sleep causes the same Stagnation of *Humours*, if immoderate.

Fear stops the Circulation of *Blood*, and Secretion of the *Humours*.

Too much heat in the Summer time causes the *Blood* and *Humours* to evaporate their *volatile* parts, which promote the Fermentation.

In a cold and moist Region the *Ferment* is too *slimy* and *waterish*.

Thirdly, Digestion is vitiated by the Diseases of the *Stomach*; when it wants its *Rugosity*, the Meat descends undigested too soon, or is vomited up; when it is stopt by any *Tumour*, *Contraction* or *Compression* about the *Pylorus*, the Meat turns sower and flatulent.

The Cure of a weak *Digestion* consists,

I. In avoiding all these evident Causes which produce it, and by using the contrary; as,

1. Avoiding *Waters*, *fat*, *acerb*, *acid*, *austerer* or *viscous Vegetables*, and all *Drinks* half *boiled*, and half *fermented*, *turbid* or *acid*.

2. The

2. The most convenient Diet, is that of *Flesh-Meats*, in which there is a *fætid Oyliness*, and a natural *Saltiness*, and no *Crudities*. The most convenient *Li-quor*, is *small Ale* for constant Drink, or else *small Wines*.

The Physical Tastes in our Diet which help a weak Digestion, are, the *aromatic*, the *salt*, the *bitter*, the *acrid*, or *vinous Taste*, these help the Fermentation in the *Stomach*; and are to be commonly mixed with our Meats.

The *Flesh-Meats* of an easie Digestion, are the *Flesh* of all young *Animals*, as *Pig*, *Lamb*, *Rabbit*, *Chicken*, *Potched Eggs*, and *fresh Fish*; but the Diet which has the Physical Tastes above-mentioned, is more easily digested by weak *Stomachs*. *Bread* well fermented, and *small Ale*, are the most easily digested by a weak *English Stomach*.

Salt Meats excite the *Appetite*, keep the *Body* open, cut the *Phlegm*, strengthen the *Stomach*, and help *Digestion*.

3. Motion helps the Depuration of *Wines*, if carryed in a *Ship*, or shaked; so exercise helps the distribution of the *Chyle*, the circulation of the *Blood*, and secretion of *Humours*, and the digestion in the *Stomach*, as well as sanguification of

of the *Chyle*, for an external Motion of fermenting *Liquors* promotes the internal Agitation of Parts, in which the nature of Fermentation consists.

4. Instead of Fear and Sadness, Joy and Anger are to be indulged; for these make a brisker Motion of *Humours*; but the former check the Expansion of our *Spirits*, and cool the *Body*.
5. All natural Evacuations of *Humours* must be restored; but too much *Venery* cools the *Humours*.
6. A serene and clear thin Air helps Digestion, by giving a greater expansion to the *Spirits*.
7. Cares and Watching excite the *Animal Spirits* to a brisker Agitation; but long Sleep dulls them: Sleep of 7 or 8 hours is sufficient.

II. The Second Intention respects the correcting the Ferment, and the Faults of the *Humours* from whence it arises, and the Evacuating of the quantity of any preternatural *Humours*, by Vomiting and Purging, which is described in the Cure of the following *Cacochymia's*.

III. The Third Intention, is the Suppressing of all preternatural *Evacuations*, which will be described in the Cure of them.

IV. The supply of the Defect of the Ferment, by Medicines like it in Taste and Virtue.

V. The Diseases of the *Stomach* are to be cured by the prescribed Method for those particular Distempers, ~~such~~ are of want of *Appetite*, *Inflammations*, or *Pains* of the *Stomach*, the stopping *Evacuations* by *Vomit* or *Stool*, &c.

The following Tastes are the general Digestives in all the *old Cacochymia's*, which depend on a low Fermentation. These promote the Fermentation of the *chylaceous Mass*, the Circulation of *Blood*, and Secretion of *Humours*. These deterge the *viscous Phlegm* from the *Membranes* of the *Stomach*, and corroborate its *Fibers*; and upon these accounts these Tastes are the general *Stomachics*.

I. The *Cresse Acrids*, as *Horse-Radish*, *Scurvy-Grass* infused in *Wine* and *Mustard-Seed*.

II. The *Corrosive Acrids*, as *Aaren-Roots* in *Powder* or *Wine*, and *Pulvis ari Compositus*; these Two Tastes quicken the *Appetite*, and *Garlic* preserved does the same.

III. The *Bitter Acrids* of a *Wormwood* Taste, as *Conserve* of *Wormwood*, and *Wormwood* in *Rhenish* or *Sack*, or *Wormwood-Cakes* made with the *Oyl* and *Sugar*.

IV. The *bitter nauseous Plants*, as *Centaury*, *Buck-Bean*, *Gentian*, of which *Thea* may be made

made or *Wines* by *Infusion*, and *Aromatics* added, or *Sal volatile* taken with them.

V. The *Aromatic Acrids.*

1. Of the sweet *Class* very burning or biting, as *Ginger*, *Galanga*, *Calamus Aromaticus*, *Orris*, *Zedoary*, *Cardamum*.
2. Of the sweet *Fenil Class*, as Seeds of *Fenil*, *Anise*, *Caroway*, *Cummin*, *Dill*, *Angelica*, and *Imperatoria Roots*.
3. Of the *Laurel Class*, as *Orange* and *Limon Peals*, *Winter-Bark*, *Bay-Berries*, *Cloves*, *Cinnamon*, *Lign'aloes*, *Nutmegs*, *Jamaica Pepper*, *Myrtileaves*; and these are properly infused in *Wine*, or made into *Powders*, or *Lozenges*, as of the *distilled Oyls*, of *Oyl of Cinnamon* and *Cloves*.
4. Of the *Corrosive Class*, as *Pepper*, *Cubeb*, *Species Diatrion*, *Pipereon*, *in rotulis*.
5. Of the *Terebinthinate Class*, as *Juniper-Berries Candied*, as in *Rhus Balsamum Peru*, *Mechæ*, *Mastich*.
6. Of the *Bitterish Styptics*, as *Rosemary*, *Mint*, *Marjoram*.

VI. The *Mineral Sulphurs* which exagitate the *Animal Oyls*, and so promote *Fermentation*, as *Chalybeates*, *Antimonial*, and common *Sulphur*.

VII. The

VII. The *testaceous stony Medicines*, and all *Salts*, volatile and fixed, the *Ashes of Vegetables*, and *Calces of Minerals*, ~~are~~ *Acidities*.

VIII. All these Tastes prescribed in the Cure of the Defect of a *Ferment*, supply its Office, and contain an *Animal Ferment* in them. As,

1. The *Mucous, sub-Acid, Fætid Diet*, made of *Animal Humours*; as *Cheese*, the inward Skins of *Gizards*, which have the Tincture of the *Gall*, or *ζι* of *Rennet* of a *Hare*, or *Calf*; all *Meat or Fish* somewhat putrefied, as *Anchoves, pickled Oysters*; and outwardly we apply *Leaven*, with the *Juyce of Mint*.
2. By *Artificial Sauces* we imitate the natural *fætid* and *sub-acid Slime* of the *Stomach*, as in *Catchup*, ^{*Mango*} ~~*Plumbs*~~, *Mushrooms*, and some *Indian Liquors* or Sauces of *Garlic, assa fætida*, — *Salt*, and *Aromatics, Mustard-Seed*, with *Vinegar* in common *Mustard*.
3. By the *salso-Acid Medicines*, as *Tartar. Vitriolat. Sal Armoniac. Arcan. Duplicatum, Terra Ful. Tartari, Lixivium of Lime and Oyster-Shells*, we help Fermentation.
4. By the *vinous, sweet, and sub-acid Spirits or Juyces; Spiritus nitri dulcis, sweet Spirit*

(46)

rit of Salt, Spirit of Bread, Elixir Vitrioli, Spirit of Mastich, which is Acid, Spirit of Verdegrease, Juyces of Citrons, Limons, Oranges, Berberries, Currans, Spirit of Vinegar, all sharp Rhenish Wines, old Hock, conserve of Hips, Water of Vine Leaves, or other acid Juyces, and all physical, aromatic Vinegars.

Acids before Meat excite an Appetite, Salso-Acids with Meats, and Aromatics are good after Meat to help Digestion.

Fourthly, External Applications are described below, which encrease the heat of the Stomach, and strengthen the Fibers.

C H A P.

C H A P. V.

Of the Mucilaginous State
of Animal Humours, and
especially the Chyle, and
Chylous Lympha's, which
is usually called the Pitui-
tous Cacochymia.

THE Food of *Animals* contains in it
much of a sweetish *Mucilage*, as is in
all *Corn*, *Grass*, *Milk*, and the *Legu-
mens*; neither does *Flesh-Meat* want their
Sliminess. The *White* of an *Egg* is *ropy*, *slippy*,
and is a *nutritious Lympha* separated from the
Chyle by the *Glands* of the *Ovarium*. The
Decoctions of *Fish* have a great *Mucilage* ;
and the *Gellies* of *Broth* sufficiently prove the
viscid Sliminess in the *Flesh-Meats* we eat.

From our Food *Animals* necessarily take
the matter of their *Mucilaginous Humours*, as
will appear by these Causes of *Phlegm*.

r. All

1. All *Drinks* occasion a great quantity of *slimy Phlegm*, which is only the *Mucilage* of *Barley* extracted from the solid Parts of the *Grains*. All *Mault-Drinks* may be boiled into the Consistence of a *slimy Syrup*, or that of a *Plaster*.

All *sweet Fruits* have their *Mucilage*, as *Grapes*, *Gooseberries*, &c. and therefore these yield much *phlegmatic Matter* in *Digestion*; and all thick *Wines* made of them are accounted *Phlegmatic*.

All the *Legumens*, as *Peas* and *Beans*, have an evident *Sliminess*; and so have all *Cakes*, and crusty baked *Pyes*, or such like; and all *Meats* prepared of *Flower*.

All the *Olera*, as *Cabbage*, *Turnips*, *Lettuce*, *Spinage*, *Cucumbers*, *Melons*, &c. have an evident *Sliminess*, which they always produce in *Animals*, who eat them.

This *Mucilage* in *Plants* is their *crude Juyce*, and is of an *Oyly Nature*, as appears evidently in *Linseed*; this is of a cooling quality, as *Phlegm* is accounted: from their *crude Slime* many *Plants* prepare their *sweet*, *bitter*, *acrid* or *aromatic Tastes*; and *Phlegm* is a *nutritious Juyce*, which may be farther digested into *Blood*.

The *Nervous Parts* of *Animals* yield the greatest *Slime*, as the *Calves Feet* and *Head*; the *Guts* are *Membranes* of *Animals*, the *shavings*

shavings of *Horns*, and the decoctions of *Bones*. The *Liver*, *Spleen*, and *Brains*, have much *Slime*.

Fish and *Water-Fowl*, who feed of turbid and muddy slimy Water, are accounted to be the Causes of *Phlegm*, especially *Eels*.

All *Flesh* full of Nourishment, as *Beef*, *Pork*, *Gellies*, *Gravies*, and *Eggs*, increase the matter of *Phlegm*.

Young Creatures, as *Pig*, *Lamb*, &c. yield a very great *Slime*, if eaten too young.

Goat's-Flesh eats very slimy.

All fat *Meats* are *slimy*, and of hard *Digestion*; and fat *Bodies* are usually *phlegmatic*. *Oyl* has a *Slimeness*, and so has *Fat* always joyned with it.

Milk breeds much *Phlegm* from the *Caſeous* parts in it; and *Butter* is accounted *phlegmatic* from its oyly fat parts.

Too great a quantity of *Meat*, and often Drinking great quantities, breed a *Sliminess* in the *Chyle*, by hindring the Fermentation of the *Meat*, and its perfect Dissolution.

2. *Sleep* and *Idleness* hinder the circulation of *Humours*, and produce a stagnation of them, by which, their *viscid*, *oyly* or *fibrous* parts cohere and unite into a *Slime*.

3. A *Mucilage* is increased in the *Humours* by a fenny, wet Countrey, or moist Air, which clogs the *Spirits* fermenting; and a cold Air

D coagulates

coagulates the *Humours*; so the *lymphatic Liquor*, exposed to the Air, immediately grows thick or gellies: and all our strong *Broths* grow thick and *viscid* by cooling.

4. *Cares and Sadness* stop the Motion of *Humours*, and thicken them; and hence it is that melancholy Persons are *phlegmatic*, and spit much *viscid Phlegm*.

5. The Suppression of Evacuations, as the *Menses* in Girls, and stoppage of a *Cough*, or *Spitting*, encreases *Phlegm* in the *Stomach*.

6. *Hæmorrhages*, long *Fever*s, *Fluxes* of the *Belly*, or other *Chronical Diseases*, produce much *Slime*.

8. Those who have been born of *phlegmatic* Parents, or live in a moist, cold Country, near standing Waters, or the Sea-side; those who are of a great Age, for want of a perfect *Digestion*; and those who are very Young, as Children, through their much and disorderly eating; Women, by reason of the lesser degree of Fermentation in that Sex, abound most with *Pblegm*. The Cold and the Moisture of the Air stopping the *Pores* in the Winter-time, makes that Season to be accounted most *phlegmatic*.

9. The *Mucilaginous Temper* of the *Blood*, *Chyle*, and *Ferment* of the *Stomach*, is natural to some *Constitutions*, who dissolve their *Meat* only into a *Mucilaginous Juyce*, which is

is the greatest Crudity of our Digestion ; and therefore, from this arises all our Phlegm ; for that was accounted, by the Ancient Physicians, the coldest Humour ; which being a nutritious Juyce, it, by only fasting, was turned into Blood.

This crude Chyle swims in the Blood, and appears as Milk in the Blood, let out of some Persons who are greatly Cachectic ; and by putting Spirit of Harts-Horn to such milky Blood, I have turn'd it reddish, or of a rosy Colour. Such was the Blood of a Gentleman who had drank hard, and bled much ; this milky Blood in him was never turn'd into Serum ; but in others of a less Crudity, the milky Chyle is imperfectly turned into Serum, but that is very much in quantity, and watery or insipid, rather than very salt.

The Sanguification is hindred for want of an acrid Bile, and the Saltness thence proceeding.

The Circulation is hindred by the viscosity of the Slime, and the Secretion of most of the glandulous Humours. The Chyle is never digested further than to a nutritious Sweetness, and from hence the habit of the Body is very fleshy and fat ; but the Pulse slow, soft, and weak ; the Spirits are dull and torpid ; the Bile ropy and sweet, rather than bitter, or acrid ; the Juyce of the Spleen very mucilaginous, for

want of Digestion, and the *Blood* has more of a *gelatinous* Consistence, than *fibrous*; and *Tumours* happen in the *Viscera* or *Glands*. In the *Brain*, *sleepy Distempers*, and *Dulness* of the *Senses*, or *Stolidity* from the *thick Sliminess* of the *nervous Juyce*; the *Urin* is *pale* and *waterish*, with *thick* and *white farinaceous* *Contents*, or without any, if there be *Obstructions*, and an *Appetite* is wanting.

The *Sweats* are *cold* and *viscid*, for *Phlegm* offends by both those qualities.

The *Succus Nutritius* abounds with *Slime*, and causes a *leucophlegmatia*, or *pale Tumour* of the habit of the *Body*.

The *Seminal Lympha's* are *cold* and *slimy* in *Sterilities*, and the *fluor albus*, or *Gonorrhœa simplex*, and so becomes unfit for the use of a *Ferinent* in *Generation*.

The *Lympha lactea* is most abundant in the *phlegmatic*, for that is immediately produced from the *mucilaginous Chyle*, and separated by the *Glands* of the *Mouth*, whence the *slimy Phlegm* is hawked up; and this is plentifully emptied into the *Stomach*, where it causes a loss of *Appetite*, a *saburra pituitosa*, and *windiness*; and in the *Lungs* it causes *Coughs*, and *Stoppage* of *Phlegm*, or *dyspœa*, with *Lassitude* in the *Limbs*, a *flow Fever*, and *Paleness* of *Urin*, and of the *Countenance*, and *Palpitation* of the *Heart*, which are the signs of a *pituitous*

pituitous Cachexia, evident in the Green-Sickness.

All outward œdematos Tumours arise from the *succus nutritius* of a pituitous Temper.

This *Chyle*, and the *Lympha lactea*, is the natural and alimentary *Pituita*, which the Ancients described as *insipid*: *τὸν υἷν φλέγμα ἀποιον ρεθάπτειν οὐδεις*, is Galen's description of it; this is the *humid, cool, and sweetish* part, which is so agreeable to the Taste of the *Blood*; and they esteemed that *Blood* pituitous naturally, which abounded with an exceeding quantity of sweetish *Chyle*, which remained something undigested in the *Blood*, and was not wholly sanguified, but capable of it; this, of all the *Humours* to the touch, was, *ψυχεότατον*, or *coldest*, and they called it most *viscid*, or *γλυκείτατον*, when it is made so by the great Ebullition of *Blood* in *Inflammations*, for they thicken it into that *tough Skin* which covers the *Blood*, when cooled in the Dish.

But when this *chylaceous* part of the *Blood*, or the *Lympha's* thence arising, become preternatural, Galen describes the *Phlegm* thus, *ἄλλα ἐκτρεπόμενον τῆς ρετὰ φύσιν ποιότητος, ἐκ ἀλικήρ μόνον ἀλλὰ καὶ δέξι, καταλαμβάνει δὲ ποτὲ καὶ γλυκειας ποιότητος*. The *lacteal Lympha's* have their *Acidities* from *Stagnation* in their *Glands*, or the *Tartar* abounding in *Chyle*. They have their *Saltiness* from the *Saltiness* of *Chyle*, and that of the *Serum* in *Catarrhs*. D 3 In

In respect of the Consistence, the Pituita is watery and thin, or mucous, or slimy, or tenaceous, when the thin parts are evaporated, the vitreous Pituita is from the thickness of Chyle, or its Stagnation in the Lungs, and this is clear, like Gum-tragacanth dissolved. Cold may coagulate a pellucid Lympha into such a Consistence.

The Tartareous or Gypsea Pituita is from the earthy petrefying Parts, mixt with the viscid Phlegm, which is Salso-acid.

By the following signs, the Ancients guessed at the differences of the Pituita.

1. By the pale, clear Urin, and want of Appetite, they discerned the insipid Phlegm, or the lowest state of Digestion.

2. By a pale, thin, milky Water, and the greatness of the Appetite, they knew the Acidity of the Phlegm.

3. By a lacteal, pale, thin Water, with a globous troubled Residence, (and the Cholic) they guessed at the vitreous Phlegm ; but this is frequently spit up, and evacuated by Stool or Urin, and so best observed.

4. By the Citrine Urin of a thicker Consistence, and high-coloured Sediment, the Saltiness of Phlegm is known.

The Mucilaginous State of Humours is to be Cured,

First,

First, By avoiding the Diet, and all the other evident Causes above-mentioned, which produce them, and using the Diet mentioned in the Cure of a weak *Digestion* or *Fermentation*.

The Diet in which there is least *Slime* is best, as *Wheat-Bread* well baked, and dry; *Wine* and *Water*; the *Flesh* of *Birds*; roasted *Meats*, as *Mutton*, *Rabbit*, *Larks*, *Sparrows*; and all salt *Meats*, or broiled *Meats*.

Fasting spends the *Phlegm*.

Secondly, The abundant *mucilaginous Phlegm* must be evacuated,

I. By *Vomiting*; and those of,

1. A *bitter, acrid Taste*, as *Vinum Scyliticum*.
2. Or *vitriolic Taste*, as *Sal Vitrioli*.
3. Or *Sulphureous*, as *infusio croci Metalorum*.
4. *Mercurial Styptic*, as *Merc. Vitæ*.

II. By *Purgers*.

1. *Aloetics*, which are *acrid, bitter, and nuseous*, as *Tinct. Sacra*, *Pil. Hieræ cum Agarico*, *Aloephantinæ*, *Stomach. Mastichini. de Ammoniac.* *Pil. Fætid. cum Gummi*, *Aloe Rosata*, *Elix. Proprietat.*
2. By *acrid Purgers*, as *Jalap*, *Agaric*, *Scammony*, which contain an *acrid, corrosive Rosin*, with a *Sliminess*.

3. By *Mercurials*, a plentiful Evacuation of *phlegmatic Humours* are procured, for the *acid Phlegm*, like *Spittle*, easily mixes with the *Mercury*, and *Mercury* injected into the *conglomerate Glands*, through the *Artery*, easily passes them.

III. By *Sudorifics*, which are *bitter* and *acrid*, as Decoctions of the *Woods*, for the *Sweets* often appear *glutinous*, and smell *acid* or *sowre*.

IV. By *Diuretics*, the *Phlegm* is sometimes evacuated, or, at least, corrected by their *Acrimony*.

V. In Women, *Acrid Pessi* evacuate an *albuminous Pituita* from the *Vagina*.

VI. By the *Errhines* (which also excite a *Cough*) from the *Nose* and *Lungs*, a *Pituita* is evacuated.

VII. *Salivation* and *Masticatories* evacuate considerably, but *Salivation* many Pints of *Phlegm* in a Day, and very much by *Chewing* of *Tobacco*.

These are the natural Evacuations of the *pituitous Lympha*, which the *Physicians* procure by Art, and imitate the natural Evacuations of it, through the *secretory Glands*.

Thirdly, The Fermentation of the *Chyle* is to be reduced to its natural degree, by the Tastes above-mentioned, in the Cure of a weak *Digestion*; and,

1. More

1. More particularly all *acrid* and *bitter* Gums seem appropriate *Specifics* by their *mucilaginous* Consistence, by which they adhere to the *Slyme*; but by their *Bitterness* they deterge it, and by their *Acrimony* dissolve it; such is *Ammoniacum*, *Bdellium*, *Galbanum*, *assa fœtida*, *Myrrha*, and all *terebinthinate* Gums and *Balsams*.

2. The *ropy* Consistence of *Wines* is cured by a *Lixivium* made of *Vine Branches*, by *calx viva*, or *Chalk*, or *Flints* burnt, which precipitate the *crude Tartar* with the *Slyme*; and for the *Phlegm*, we use the *Ashes* of *Vegetables*, and the *Calces* of *Minerals*.

3. *Ropy Wines* require *Styptic* Precipitators, as *Alumen ustum*; or *Salso-Acids*, as *Bay-Salt*: and the *bitter Styptics* may effect the same in the *Blood*, as *Ash-Bark*, and the *Cortex Peruvianus*. We add *Salt* to our *Dough* to attenuate its *Mucilage*; and *Sal Armoniac.* and *Tart. Vitriol.* dissolve the *Phlegm*.

4. We use *bitter Acids*, as *Elixir Proprietatis*, or *spirituous Acids*, to deterge the *Phlegm* of the *Stomach*, and the precipitating of it; and for this reason we sulphurate the Vessels of *ropy Wines*.

5. All the *bitter, nauseous Medicines* deterge the *Pituita*, as *Gentian*, *Aristolochia*, &c. and the *bitter slimy*, as *Carduus*, &c. help the clearing of *Beer*.

6. The

6. The *ropy Phlegm* is dissolved by *volatile* and *fixed Salts*, which dissolve all our *mucilaginous Gums*; and for this end *Sylvius* prescribes *Sal Volatile Oleosum* with our Diet, or immediately after it, which may be used then with *Milk, Water, and Sack*.

Stum is added to *ropy Wines*, and *Spirit of Wine*, that we may excite a new Fermentation in them: and by the same Experiment we are taught to use all things of a fermenting nature, both in our Diet and Medicines; for nothing dissolves the *Viscidity* of a *mucilaginous Liquor* like giving it a Fermentation; so the white of an *Egg* is dissolved into a *Colliquamentum* by the Incubation of a *Hen*, which is also made very liquid or fluid by becoming rotten, and putrefied by keeping; and then, if *Eggs* be boyled, they will never grow thick, like *new Eggs* boiled.

The White of an *Egg* is made thin, and more fluid, by beating of it; and from hence we learn, that much Exercise attenuates *Humours* that are slimy, and Fermentation does the same, which is an internal Agitation of Parts, whereby the *Viscidity* of *Vegetables* is dissolved in any Liquor, as in making of *Mault-Liquors* and *Wines*.

All new Liquors before they have undergone a full Fermentation are *ropy* and *sticking*, but by that their Consistence becomes more fluid.

By

By Experience we find that all hot fermentative Medicines, as *oyly, resinous Vegetables, Steel and Salts*, cure the *pituitous Cacochymia* in the *Green-Sickness*; and to such Persons we give *Stum* it self, as a great Ferment to their *cold Humours*.

Quicksilver Medicines easily mix with *Phlegm*, and so are fit to evacuate it; but by its *Acidness* it seems to depress the Fermentation of *Humours*, and so is not a fit Medicine, as an alterer in this *Cacochymia*.

Fomentations of *Wines*, and *aromatic Astrin- gents*, or *Brandy*, which *flames*, and *Aromatics* infused, hot *oyly* and *resinous Plasters*, or *Ca- taplasms*, excite and cherish the inward Heat and Digestion; and outward Heat helps the Digestion and Putrefaction of all other Bodies, whether *Vegetables* or *Animals*.

The greatest quantity of the *slimy Pituita* is lodged in the *Stomach*, and without a *Vomit* it is almost impossible to remove the great quantity of *phlegmatic Humours*. I found a great quantity of *Phlegm* in the *Stomach* of a *Pig* fed with *Peas*, which could not proceed immediately from the *Meat* it self, because, though that was dissolved, it differed in *Co- lour* and *Consistence* from the *Phlegm*, and in *Taste* also; besides, in the *glandulous ring* above the *Gizzards of Birds*, there is a *viscid Phlegm*, though the *Corn* pass through it intire and

and unbroken into the *Gizard*; this *Phlegm* then arises from the *Chyle*, and passes through the *Glandules* of the *Stomach*, to whose *Skins* it constantly adheres, and Fomentations outwardly may help the Secretion of it through its *Glands*, and the Dissolution of it from the *Stomach*.

That Fermentation is the most natural way of Curing the *phlegmatic Cacochymia*, appears by our ordinary Preparation of *Bread*; for the Ferment and Baking perfectly corrects the *slimy Mucilage* of *Corn*; and we observe how *heavy* and *slimy*, and how *hard* to be digested, all *Bread* unfermented or unleavened proves.

If we view *Mucilages*, such as the *White* of an *Egg*, or *Cherry-Tree Gum*, dissolved in the magnifying Glasses, we cannot discern any *Globuli*, but an uniform Consistence. The small *Particles* of *Mucilages* exclude all *Air*, and cohere close, which makes them ropy and tenaceous; but if we look upon *Milk*, which is little different from *Chyle*, and therefore is made out of the *mucilaginous Juyces* of *Plants*, we may observe the *Particles* of *Milk* to be only a heap of *Globuli*. Fermentation makes all *mucilaginous Liquors* fluid, by agitating their *Particles*, and dividing into small Parts the *viscous Mass*; so that the *Air* may encompass each *Particle*, and form them into *Globuli*

Globuli, as it does great Drops of Water in the falling of Rain. Water is nothing else, as it appears in those Glasses, but a *Congeries* of *Globuli*; by which Observation, I may probably guess, that the nature of Fluidity consists in having the small *Particles* of *Li-
quors* divided into *Globuli* by the Air; and the nature of a *Mucilage*, in having no Air intermixt betwixt its *Particles*, nor globular Figure to yield upon any Pressure or Motion. We observe in fermented *Bread* how many airy Bubbles are intermixt in the whole Mass after Baking; and also in all fermenting *Li-
quors*, how full of Air the Fermentation makes it. *Barm* it self is almost all Froth, whose Efficacy lies in exciting the *Spirits* of the fermenting Liquor into an Agitation, to break its Viscidity, and admit the Air to frame the *Globuli* necessary to all Fluidity. We could not observe any Motion in the *Globuli*, to which the Fluidity of Liquor might be imputed, but seemed wholly owing to the globular Figure of the *Particles*, which appeared clearly in Water, the most fluid of all our Liquors.

Oyl and *Butter* appear in the Glass of the same uniform Figure as the *Mucilages* do, and this makes them easily to mix together.

I mixt divers Medicines with a *Mucilage* of *Quince-
Seeds*, and the *White* of an *Egg*,
that

that I might thereby inform my self more in the nature of *Mucilages*, and their Coagulations.

Spirit of Vitriol soon coagulated the *Mucilage* of the *Seeds*.

Green Vitriol and *Alum* thickened the *Mucilage*, and the *White* of an *Egg* was curdled by *Alum*.

Common *Sal Armoniac*. and common *Salt*, rather thinned than thickened the *Mucilage*; but made no great change, nor *Cream* of *Tartar*.

Salt of Wormwood, and *Sp. Sal. Armoniac*. made the *Mucilage* more thin, and gave it a *Marmolade* Colour.

Brandy made no Alteration in the *Mucilage*, but curdled reddish on the top of the *White* of an *Egg*.

Aqua Fortis and *Saccharum Saturni*, turned the *White* of an *Egg* into a coagulated *Milk*, which shewed the Original of the *Animal Slimes* to be from *Chyle*.

The Heat of the Fire seemed to make the *Mucilage* more thin; and to dry it into a Skin, like the *Mucilage* of the *conglomerate Glands* of the *Joynts*, which, as Dr. *Havers* informs us, is like the *White* of an *Egg*, of a *saltish* *Taste*; and this, he says, with the Heat of the Fire, turns into a *Liquor* more tenuous than it is naturally, and produces upon *Evaporation*

poration a thin film on the top, with some little *white Coagulum*, and what remains is not a thirteenth part. He made these further Experiments on it.

Vinegar coagulated it, but *testaceous Medicines* would not dissolve it.

Claret, which is *Styptic* and *Acid*, produced a Coagulation like a *Jelly*; but *White-Wine* and *Sack* less. *Alum*, *Vitriol*. *Sacc. Saturni* coagulated it; and *Vinegar* more, than *Oyl of Vitriol*.

Sal Armoniac. dissolved all the Coagulations by *Acids* or *Styptics*, and so does *Oleum Tart. per deliquium* made without *Niter*.

Aqua Fortis and *Spirit of Niter* coagulated it like *Milk*.

Styptic Plants, as decoction of *Galls*, *Red Roses*, the *Cortex*, coagulated it.

These Experiments being made on an *Animal Mucilage*, shew the Coagulation of it by *Acids*; for which Reason I transcribed them from the Ingenious Dr. *Havers's Book*.

C H A P. VI.

Of the Tartareous Acidity or Acerbity of Animal Humours; especially the Chyle and Lacteal Lympha's, which commonly appears in the sourness of our Stomachs.

ALL Vegetables have their Tartar or Sour part, altho they Taste nothing of it, but are very Bitter, yet their Juyces being Boyled to an Extract, manifest their Tartar to the Taste, as in Extract of Wormwood.

All Liquors prepared from Vegetables, and Bread made of them, are apt to sour by keeping, and therefore manifest the Tartar which lay concealed in it before, under the sweet oyly Taste.

Not only Vegetables, but the Animal Chylous Juyces have a sour Tartar in them; for Milk which is a depurated Chyle, sours by keeping,

keeping, and *Butter-Milk* has an evident *Acidity* in it. The *Chyle* of *Animals* is often observed to be coagulated by its own *Innate Tartar* in the *Glands* of the *Mesentery*, or other *Viscera*, where *Chèesie* coagulations are often cut forth.

The *Milk* in the *Breasts*, is often coagulated by its own *Acidity* or *External Cold*, and by its *Stagnation* produces *Tumours*.

The *Lacteal Lympha* is often coagulated in the *Conglomerate Glands* of the Mouth, Nose, Throat, and in the Bladders of the Lungs, by its own *Tartar* or *Cold*; and the taste of the *Saliva* is often observed to be *Sour*.

The *Serous Salt Lympha* is coagulate in *Rheumatic* pains in the *Lymphatics*, and in the *Conglobate Glands* in *Scrophulus* *Tumours*.

The *Lympha* of the *Nerves* may be coagulated in the *Palse* and *Cataracts*.

The *Blood* it self is coagulate and grumous from too *Acid Chyle*, which causes a low Pulse and Fainting.

The austere Juice of the *Spleen* produces obstructions in the *Hypocondria*, and coagulates the *Bile* like *Alum*.

The Contents of the *Guts* being austere, they produce *Cholicks*, and the binding of the *Belly*, and a compression in the *Stomach* and *Breast*.

If we consider only the *Principles* which *Chymistry* extracts from *Animal Humours*, we shall find no sensible *Animal Acid* pure and evident in them; for they only shew us a *volatile Salt*, and *fætid Oyl*, and *phlegmatic Water*; but if we examine the *Stomachs* of *Animals*, and both Smell and Taste the *Contents*, there we shall observe a manifest *Acidity*; from whence I shall observe, that our bare *Senses*, if diligently employed about natural subjects, inform us more truly than the *Chemical Experiments* by strong Fires, about the *Nature* of them.

A different *Quantity* and *Quality* of *Acids* appears in the *Stomachs* of *Animals*, according to the difference of their *Meats*.

In the *Stomachs* of *Rabbits* a manifest *pungent Acidity* may always be observed, if they feed on *Grass*.

In the *Stomach* of a *Lamb* an *acid Taste* and *Smell* may be observed very different from the former, like the *Sowreness* of *Milk*.

In *Birds* who feed on *Grass*, the same *Acid Smell* appears as in *Rabbits*.

In the *Carnivorous Animals*, and in *granivorous Birds*, the *Acid* is less evident, and their *lymphatic Ferment* tastes *insipid* or *sub-acid*; but the *Contents* of *Carnivorous Stomachs* coagulate *Milk*; and I believed the *Digestion* of *Ram* and *Beef* was *sub-acid*, as I observed.

From

From hence it appears, that *Acidity* is produced by the Digestion in the *Stomach*, and is only a consequent of it, and not the cause. *Acidity* is more observable in Young Creatures, who feed on Liquids, than in the Elder; but these ought to have had a stronger *Acid Menstruum*, (if our Meat were to be dissolved by it) which, if it were as strong as *Aqua Fortis*, it could not dissolve *Corn*, which is very easily dissolved by Fermentation, for it is nothing but the sweet *slimy Juyces* of *Plants* which yield the Nourishment to *Animals*, and that is easily dissolved out of the *Bladders* of *Plants* by any *Menstruum*, and as easily prepared by Fermentation; for its becoming a *nutritious Juyce*, and the solid *Bladders* and *Fibers* of *Plants* mixt with a *Slime* and *Choler*, constitute the Excrements of *Granivorous Birds*.

This *Acid* is natural, and necessary to the Health of *Animals*.

1. To help *Digestion*, and excite *Appetite*. *Leaven* has a *spirituous Acidity* in it, and then it ferments best. Not every *Acid* helps the *Digestion*, but a *spirituous Acid* is chiefly required; and those *Acids* which are well tempered by a *Salt* or *Earth*, as common *Salt*, or the *Sal Armoniac*. of *Animals*.

2. By the *Acid* of digested Meats the *Choler* is coagulated in the *Guts*, and there the

Animal Salso Acid is produced, the *Blood* is cooled, and its *Consistence* thickened, and the *Volatility* of its *Salts* allayed.

3. All *Acids* in *Animals* are from our *Food*, and when the *Food* contains a greater *Acid*, the more of it appears in the *Stomach*, as in *Cyder*, *French* and *Rhenish Wines*, *Vinegar*, *Sorrel*, *Verjuice*, *Limons*.

4. All *Acidities* are produced naturally by *Fermentation*; so *Herbs*, *Fruits*, and all *Liquors*, as *Pottage*, *Milk*, whether fermented without, or in the *Stomach*, sensibly afford an *acid Smell* or *Taste*. The close union of the *Oyl*, *Acid* and *Earth*, which is naturally in all *Vegetables* and *Animal Bodies*, being loosened by *Fermentation*, which is an inward *Agitation* of *Particles*, the *Acid* begins to appear, as well as the *Oyl*, and both give a quick strong *Smell*, and a spirituous quick *Taste* to fermented *Liquors*.

This *Acidity* in the *Stomach* is *volatile*, like *Spiritus Salis*, & *Nitri dulcis*; and this *Acidity* gives the *Heart-burning* to *Animals*, if it be very sharp and active; but if in a natural State, it passes first off the *Stomach*, and is corrected in the *Guts* by the *Choler*.

Our *Vinegars*, made of *Acid*, *Oleous Plants* for *Sauces*, resemble this *Acid*, creating an *Appetite* in some, but in others, *Heart-burning* them, if *corrosive*, or meeting with a *choleric* *Humour* in the *Stomach*.

5. The

5. The Reliques of the fermented Meat are more sowre ; so when we distil the *Spirit of Elder-Berries*, the *spirituous Acid* comes off first, and a more fixed *sowre Acid* remains in the Still. This Acid may be compared to the *Sowreness* of *Acid Liquors*, whose *spirituous Parts* are evaporated, as *sowre Beer*. The *Contents* of the *Colon* are of a *sowre, fætid, acid Smell* in *Rabbits* ; but the *Acidity* of their *Stomachs* is more *grateful and spirituous*.

By a great Quantity of *Acid Meats* there are more *Crudities* produced than can be corrected by the *Animal Choler* ; and then the *Chyle* and *Salts* are made very *Acid*, and the *Consistence* of the *Blood* thickened like *Jelly* ; and this sort of Diet pleases most in hot Weather and *Fevers*.

When this *Acerbity*, or *tartareous State* happens, we observe it by *Sowreness* in the *Stomach*, which, like *Vinegar-Vessels*, tinctures all our *Aliments* with the same Taste, the *Belly* is bound, *Gripes* and *Windiness* attend it, and all *sowre Medicines* and *Meats* increase it ; the *Blood* appears grumous, like the *Gellies* of *sowre Fruits*, or like *Blood* mixed with an *Acid Spirit* ; and therefore the *natural heat* is depressed, and the *Pulse* low, and the *Urin* pale and turbid, sharp or milky ; and in Children, the *Bellies* swelled with *Ob-*

structions of the Mesentery: In older Persons, the *Acidity* which always abounds in the *Cholic-Guts*, give *hypochondriacal* or *splenetic* *Symptoms*; the *Face* looks *pale*; there is no *Thirst* nor *Fever*.

The evident Causes of this *tartareous* State of *Humours*, are,

1. Food which abounds with it, as the *Fruits*, and *sharp Liquors* made of *Vegetables*, *Red*, *White*, *Rhenish Wines*, and *Cyder*, *stale Drink*; and all sweet things, as *Honey*, *Sugar*, *Broths*, and *Milk*, and *Spoon-Meats*; and all sorts of *Herbs* offend such *Stomachs*, and produce great *Acidities*, as Experience daily confirms. *Well-Waters*, and *standing Vitriolic*, or *boggy Waters*, are also very injurious.

2. *Cold Air*, in which a *nitro-sulphureous* *Part* abounds, coagulates *Humours*, especially the *phlegmatic Lympha's*, and increases *Acidities*, and a greater *Appetite* is produced.

3. *Sadness* and *Melancholy* breed an *Acidity*, by dissipating the *Spirits*, and causing *Stagnation* of *Humours*, which also hinders the *Separation* and *Exaltation* of the *Oyl*, which naturally tempers the *Tartar*, and gives it a *Fluidity* in *Liquors*.

4. The *Binding* of the *Body* encreases *Acidities*.

5. A *Defect* in our *Exercise* produces it, for that is necessary to help the *Distribution* and

and Digestion of our Nourishment, and the Circulation and Secretion of other *Humours*, and many times the Sweat smells sowre, and so evacuates it that way.

The internal Causes of the *tartareous* State of *Humours*, are,

1. A depressed and weak Fermentation; and the same happens to *crude* and *unfermented Wines*, for want of a due Fermentation.

2. The *Acrimony* of the *Bile* is wanting, which being less pungent and bitter, it cannot correct the *Acidity* of the digested Meat, nor turn it into *Salt*, nor, consequently, perfectly sanguifie the *Chyle*, which is the chief office of *Choler*. In the *Faundice* the *Choler* is wanting; and the *Icterical* have a great *Sowreness*, and *Gripes*, with *Windiness*.

3. The *Chylous Humours*, like *Milk* kept in a hot Place, if they stagnate in the *Guts* or *Læteals*, they soon coagulate, and become *Acid*.

4. Divers Diseases which depend on a *vitriolic Acidity* in the *Blood*, and are produced by too high a Fermentation, as the *Hypochondriac*, and *hysterical Distempers*, when they have long continued, weaken the natural Fermentation, and so produce that *Sowreness* in the *Stomach*, of which those Patients complained very much.

The Cure of this *tartareous* State, is,

I. By *Vomiting*, with some gentle *Antimonia*, or *Wine of Squills*, or *Sal Vitrioli*.

II. By *Purging*, with *Aloetics*, as *Pil. Aloephantinæ*, *Salt of Wormwood*, and *Extract. Gent.* or *Tinct. Sacra*; adding *Æthyops Mineralis*; *Steel*, or *testaceous Powders*, to the *Aloetics*.

III. By correcting the *Acidity* or *Tartar*, by raising the *Fermentation* to its natural State, by the Medicines above-mentioned; the chief of which are the *acrids*, *aromatics*, *resinous*, *bitters*, *chalybeates*, and *salt Tastes*; so we add *Stum* to *crude*, *sowre Wines*, to raise the *Fermentation*. *Alteratives* do more good than *Purgers* in this state of *Humours*.

IV. The *Tartar* may be precipitated and carried off by *Urin*.

1. By *Lixivium* of *Lime* or *Oyster-shells*, and both *fixt* and *volatile Salts*.

2. By the *calces* of *Minerals*, or *ashes* of *Animals*, and *Egg-shells* burnt.

3. By *testaceous Medicines*, or *stony Minerals*, as *Chalk*, *Crabs-Eyes*, *Corals*, *Pearls*, *Egg-shells*, &c.

V. *Sudorific* decoctions evacuate the *sowre Humours* by *Sweat*; as *Salts*, *Mineral Sulphurs*, and *bitter Acrids*.

VI. *Clysters* draw off the *Acid* reliques re-stagnating in the *Colon*.

VII. The *Acrimony* of *Choler* is to be increased, and its Passage through the *Liver* promoted, by *bitter, acrid, Hepatics*, by *Steel*, and *Salts*, and *aromatic* or *faetid Gums* or *Oyls*. The defect of the *Choler* is supplyed by those Medicines which precipitate the *Tartar*, as all burnt *Animal Ashes*, especially *Eggs* and *Oyster-shells*; so from *sowre Wines* we precipitate the *Tartar* by burnt *Marble*, or *Flints*, or *Lime, Chalk*, or *Lixivium*; so *Vinegar* is sweetned by *Crabs-Eyes*, and when the *Tartar* is precipitated, the *oily Part* is raised, and that conceals and tempers the *Acidity* of *Tartar*.

VIII. The Circulation of stagnating *Humours* must be promoted by *Steel*, and *Salts*, and *aromatic, acrid Tastes*.

IX. The Diet ought to be of *sweet*, not *sowre small Ale*, of *Bread* well fermented, and *Flesh-Meat*; but if the *Acidity* be much, no fermented Liquor in which there is *Tartar*, nor no *Vegetables*, nor *Liquids*, will agree with the *Stomach*; but these Physical Tastes may be given to our Diet.

1. *Aromatic*; as *Pepper, Ginger*.
2. *Acrid*; as *Mustard, Garlic*.
3. *Bitter*; as *Aloes, Wormwood*, and *hopp'd Drink*, and *Mum*.
4. *Saltiness*; as all *high Brines*; for *Salt* it self abates the *sowre* in *Vinegar*, and *Oysters* cure *Heart-burning*.

5. *Roast*,

5. Roast, and broiled, and baked Meats, and those that are burnt, are most agreeable: Clearfulness, moderate Exercise, constantly keeping the Body open, and a dry Air and Marl-Pit Water, are very agreeable to *sowre Stomachs*; and Springs flowing from Chalk-Stones, Bath-Waters, and strong Chalybeate Waters in small quantities, may agree well; and Wine and Water in many Constitutions for ordinary Drinks.

I have observed, That those who have too much *Acid* in their *Stomachs* by a natural Instinct, refuse all meally Meats, and eat little Bread, as we observe those who abound with much *Choler* to have a great Abhorrence to all bitter Medicines; and the observing the Diet of our Patients will frequently give some Intimation of the particular State of their *Humours*; for I believe it is generally true, that all Persons naturally desire that Food which is contrary to the present preternatural State of *Humours*, as watery *Liquors*, and *Acids* in *Fevers*, *Ashes*, and *Terrene Absorbers* in the *Sowreness* of their *Stomachs*, bitter Drink in *Faundice*; a weak *Stomach* is pleased with stronger Liquors, and hot *Constitutions* with the smaller Drink: This agreeableness of some Tastes every Person naturally observes; and if they use them moderately, they may preserve the natural State of their *Humours*, and correct the Disorders of them.

There

There is a remarkable Observation in Sir *Theodore Mayhern*, about the Use of *Diuretic Liquors*, which ought to be used after a perfect distribution of the Nourishment, to which he attributes much in the Cure of the *Scrophulæ*, by a *Diuretic Drink*, *qui Tartarum liquidum ante sui coagulationem ad renes alegare, & per vesicam expurgare, citra concoctionis præcipitationem, potuit*. From this Observation, I think a useful Rule ought to be drawn to use our *Diuretic Diet-Drink*: Towards 5 or 6 a Clock at Night, so many Hours after Meat, and, again, in the Morning, to carry off the *Tartar-Acid* of our *Chyle*; and to take some *testaceous Lozenges* or *Pills* with our *Diuretic Drinks*, which may coagulate with the *Acids* at that time.

C H A P. VII.

Of the flatulent, crude Caco-
chymia of the Chyle, and
other Humours.

WHEN the Aliments are half fermented, and then are checked in attaining their perfect Dissolution; or their Ferment is too weak to perform it, a Windiness is produced in the Stomach, for the Spirits of the Meat being somewhat loosened, are lodged in a slimy Mass, but cannot render it fluid, but only rarefie it into Bubbles, which distending by the heat of the Stomach burst, and create *Eructation* or *Wind*. The most weak Stomach produces an *insipid Wind*, but the *Acid Ructus* is a sign of some degree of Digestion. In these Cases there is an Oppression, or Fulness at the Stomach, and Weight, *Ructus* frequently happen, and all hot Meats and Medicines agree well, but the cold ones do much Injury.

The Stomach it self is loaded with *slimy, acid Phlegm*, which is its weak Ferment, and the Guts distended by Wind.

The

The Constitution of *Humours* is *crude*, *mucilaginous*, and *windy*, as appears by the *Paleness* of the *Urin*, and *Frothiness*; and the *Spleen* is generally obstructed and pained, and the *Stools* like *Barm*, the *serous Lympha* being vitiated by the same *crude*, *windy Chyle*, it produces a *Heaviness* in the *Limbs* of the whole *Body*, and a *Fulness*, or *wandering*, *dull Pains*, &c.

The chief Effects of the *Wind* appear in the *primæ viæ*, where the *Chyle* ferments; or in the *Spirits*, which are made of the *crude*, *windy Spirits* included in the *Slime*; and for want of a due Volatilization, they produce in the *Nerves*,

1. *A Pandiculation*, or *Oscitation*, or *Stupor*, or *Cramp* in the *Muscles*; the *Noise* in the *Ears*, and *Vertigo* in the *Brain*, and *wandering Pains*.

2. *Inflations* of the *Parts*, as *Tympanitis*, and *windy Tumours* in the *Limbs*.

3. An *Inflation* of the *Lungs*, as the *Asthma* of the *Stomach* in *Sleep*, as the *Incubus* of the *Uterus*, after *Hysterical Fits*, of the *Penis* in a *Priapism*.

Many other Species of *Windiness* are produced from too high a Fermentation, when the *Ructus* are *bitter*, *acrid*, or *fætid*; or the *acrid Choler* ferments like contrary *Salts*, with the *sharp Acid* of the digested *Meat* in the

the *Jejunum*, and there produces *Flatulencies*; or when some extraneous Ferment extraordinarily rarefies and putrefies our *Humours*; but these belong to that State of *Humours* which depends on too high a Digestion.

The external Causes of *Flatulency*, are,

I. Crude Meats which are hardly fermented and digested, as the *hard*, the *acerb*, *watery*, *oyly*, *viscous* *Styptic*, and too great a quantity of Meats; for these, by the strongest Ferment, will rarely attain a due Fermentation in the *Stomach*.

1. The *watery*, as *Broths*, and *Milk-Meats* are *windy* to *Stomachs* troubled with *acid* Ferments; and all *small* *Liquors* hinder their Digestion; and for these *Stomachs*, the more solid Diet of *Flesh-Meat* is best, and *small Ale*, and nothing of *Vegetables*, but well fermented *Breads*.

2. The *viscous Vegetables*, which contain a pungent *Salt* mixed with much *Mucilage*, as *Onyons*, *Leeks*, *Garlic*, *Radish*, *Turnip*, *Cabbage*; these have a *Mucilage* hard to be digested, and an *Acrimony* which rarefies it into *Wind*, and *Ructus*; and from hence we know all *windy Herbs*, by having an *Acrimony* lodged in a *Mucilage*.

3. All the *sweet* and *mucilaginous Legumina*, as *Beans*, *Peas*, are hardly digested, by reason of their *Sliminess* and *Sweetness*, apt to ferment.

Wines

Wines of the sweet and mucilaginous Fruits, as *Figs*, *Raisins*, *Grapes*, and other Fruits, and all the *Mault-Liquors* made of *Corn*, are full of a vegetable *Mucilage*, and contain also an *oyly, acid Spirit*, which is stopt from its due Fermentation by the *Sliminess*, or outward Accidents, or for want of a due Ripeness in the Fruit it is made of; for this Reason, *Wines* made of our *acid* and *crude English Fruits* are very *windy*, the *airy, elastic Particles* seem to mix with the *oyly, acid Spirits* of all *Vegetable Liquors*; and when they are not thorowly fermented those *elastic Particles* remain mixed with the *crude, slimy Liquor*, and create the *Windiness* of it; or if any fermenting Liquor be shut up in Bottles before those *elastic, airy Particles* have evaporated, which are observed to produce the *Froth* in all fermenting Liquors; they create a great windiness in those *bottled Liquors*, and they become very unhealthful to flatulent Bodies.

Sugar and Honey make *windy Liquors*, because they are apt to ferment, and their *Spirits* are depressed, and the *airy, elastic, fermenting Particles* are detained by their innate *Gummosity*.

4. Oyls and Fats are hardly digested, because of the *Mucilage* they have joyned with them; so *Butter*, *Oyl*, and *fat Meat*, lie long in the *Stomach*, and are hardly turned into a
thin

this *Chyle* ; and for this reason *Chestnuts*, and all *oily Nuts*, are commonly thought *windy*.

5. All *crude Plants*, as *Spinage*, *Lettuce*, *Purslain*, *Mushrooms*, are *windy*, by reason of their *crude Mucilage*, and unaptness to be digested.

6. All *Acids*, and *acerb Fruits*, are *windy*, as being less apt to ferment, unless with contrary *Salts*.

Mr. *Boyl's Vacuum* proves all *Liquids* to be full of *airy Particles*, which rise upon the pumping of the *Air* ; but that *Acids* have the least of it ; and therefore I have observed *March-Drink* to have the least *Windiness*, and all other ripe *Liquors*.

7. All very *mucilaginous Flesh-Meats*, as the *Extremities of Animals*, and *Fish*, and *Water-Fowl*, are accounted *windy*, by reason of their abundant *Sliminess*.

II. All external Causes which hinder a just Fermentation, produce *Windiness*, as *Idleness*, want of due *Exercise*, too much *Sleep*, *cold Air*, *Fear*, *Sadness*, too much *Evacuation* by *Venery*, *Baths*, *Exercise*, spend the *Spirits* too much, which help the *Invigorating* of the *stomachic Ferment*, and all *Evacuations* stopt in the *Hæmorrhoids* or *Menses* vitiate the *stomachic Ferment*, by mixing the *Guts* with it ; and in *Obstructions* of the *Viscera* are blown up continually.

The

The internal Causes of a *cold Flatulency*,
are,

1. A *Stomachic Ferment* which wants *Spirits*, being only *sowre*, or *mucilaginous*, *acerb*, or *austere*.

2. The *vapid*, *watery*, *mucilaginous* or *crude* State of *Blood* and *Humours*; for they who have a strong Heat, or due Fermentation, have no *Flatulencies*, unless the Meat be of the qualities above-mentioned, which are unfit for Fermentation, and so cannot throughly be dissolved by it, by reason of their unapt^{es}ness to ferment.

They who have a very low Digestion have no *Windiness*, because they cannot raise the *Spirits* in the slimy Meat so far as to become *windy*; but those only are flatulent who can digest to some degree, whereby the *Spirits* begin to separate, but do not perfectly volatilize themselves, and separate the *aery* *Particles* from the fermenting *Liquor*, which, by its *Sliminess*, retains much of the *aery*, *elastic Particles*.

3. When the *Pylorus* is so obstructed, that the *alimentary Tincture* does not descend to the *Guts*, it becomes *windy* in the *Stomach*.

4. When the *Cholēr* does not correct the *Acidities* of the *Aliments* digested, as in the *Faundice*, *Flatuosities* are produced.

5. In the Obstruction of the *Viscera*, the *Spleen-Juyce*, or the *Hepatic*, is mixt with the *animal Ferment* in the *Stomach*, and vitiates the *Digestion*; or the *conglobate Glands* send their *serous Lympha's* thither in *Catarrhs*, or the Obstructions hinder the Distribution of the *Chyle*.

The Cure of *Flatulency* consists,

1. In Evacuation of the *slimy Humour*, which burthens the *Stomach*, by *Vomits*, and *Purges*, and *Clysters*, which are *Carminative* and *Phlegmagogues*.

2. By avoiding all noxious, windy *Meats* and *Drinks*, and using a contrary Diet to help *Digestion*, as those above-mentioned, and all the *carminative Aromatics* added to it; as *Pepper*, *Ginger*, *Cloves*, *Nutmegs*; and by avoiding all fulness of *Diet*, and *Surfeits*, and to use a very simple Diet of *Flesh-Meats*, *small Ale*, and *Bread*, and no other; to avoid *Suppers*, and *Venery* after *Meat*, and much *Exercise*, and all sorts of *Vegetables* in *Diet*, as *Legumens*, *Mault Drinks*, and *Sallets*.

3. The *pituitous*, *acerb* and *vapid Temper* of the *stomachic Ferment*, and of the *Blood*, must be corrected by *Digestives* above-mentioned; and the *Phlegmagogues* must evacuate it, as *Pilulæ Aloephanginæ*, &c.

4. The Matter rarefied into *Flatus* must be evacuated by *Pil. Mastich. Aloephangin.* by *Clysters* and *Vomits*.

5. The

5. The *Flatuositie*s must be discussed.

1. By sweet *Aromatics*; as *Semen Ammeos* 3ss. boiled in *Wine*, or *Caraways*, *Cummin*, *Fenil*, *Aniseed*, *Dill*, *Lovage*, *Parsly-Seeds*, infused in *Wine*, or *Eleosacchara* of them; as, *Fenil*. *Ol. Gutt.* 6. in *Wine*, *Daucus-Seeds* in *Beer*, *Peptic Powders* of the *Seeds* mentioned, and *testaceous Powders*, *Roots* of *Angelica* in *Powder* or *Wine*, *Spirit* or *Tincture* of *Imperatoria*, *wild Parsnip-Seeds*, *Lovage-Roots*, boiled.

2. By the *acrid Aromatics*; as *Pepper*, whose *Tinct.* with *Brandy*, or *Spirit* of *Sal Armoniac*. or *Diatrion*, *Pipereon in rotulis*, *cum Sacch. E.* *Ol. Feniculi*, *Cubeb*s, *Cardamom* in *Spirit*, *Tincture* or *Wine*.

3. The *Laurel Aromatics*; as *Ol. Cinnam.* *Caryophill.* *cum Sacch. Forbiculi*, *addend. Ambr.* *Grys. Confect. è baccis Lauri* 3ij. *ante pastum*; *Orange Peels* and *Limons*, *Nutmegs*, *Winter-Bark* in *Tincture* or *Wine*, or *Bay-Berries* in *Wine*.

4. *Terebinthinate Aromatics*; as *Juniper-Berries* candied, No. X. or *Syrup* of the same made with *Wine*, or *Juniper-Wine*; *Enula* compound Candied.

5. *Acrid, sweet Aromatics*: *Calamus Aromaticus*, *Ginger*, *Zedoary*, *Galanga*, which may be infused in *Wine* or *Brandy* thus, *R. Calami Aromatici*, *Zedoarii*, *Galangæ*, *Zinzib. an.* 3ij. *Senæ* 3vi. *Agarici*, *Turbethi*, *an.* 3ij. *Cardamom*

5i. Fiat infus. in Vin. alb. libij. colat. Capiat 3ij.

Let Zedoary be chewed in the Mouth, or
infused in Wine.

Use *Costus* and *Iris* in Wine or Tincture.

6. Cephalic, acrid, styptic Aromatics, and
bitterish; as *Calamint*, *Mint*, *Penny-Royal*,
Thyme, *Rosemary* in Wine, or their Oyls in Lo-
zenges, or spec. *Diacalamint* in Lozenges.

7. Bitters deterge the phlegmatic Matter
joyned with Aromatics; as *Wormwood-Wine*
with *Sal volatile oleosum*, or *Enula*, and *Orange*
Peels, *Chamomil Flowers* two handfuls in a
Bottle of Sack; bitter Wines of *Centaury*, *Gen-
tian*, and *Orange Peels*.

Decoction of *Polium Montanum* in Wine;
or Conserve of *Tansie*.

Theriaca, or *Mithridate* with Wine, Syrup
of *Carduus* 3ij. with 3i. of Extract of *Ca-
lamus Aromaticus*.

8. Fætids; as *Rheu* in Wine, or Syrup, or
distilled, or in *Clysters*; and outwardly, Oyl
of *Rheu*, and *Amber*.

9. Animal Fætids; as *Castor*, and the Dungs
of Animals, as that of *Pigeons*, and *Hens*;
or Infusion of *Horse-Dung*, and the same fryed
in Oyl, applied outwardly.

10. Vegetable Acrids, or Corrosives; *Garlic*,
and *Onyons*, and *Aaron Roots*.

11. Terebinthinate Fætids; *Rad. Asari*,
Nardi, *Savin*. boiled in Wine, and applied as
a *Cataplasm*, and the Wine drank.

12.

12. *Narcotics*: Rx. *Aqua Fl. Cham.* 3*iv.*
Menth. Mirabilis, an. 3*iss.* *Spir. Nitri dulcis*
 3*ss.* *Laud. gr. ij.* *Ol. Anis.* *Gutt. 2.* *Syr. Fœniculi* 3*i.* *Misce.*

The external Applications are Fomentations of Aromatics boiled in Wine: *Calamus*, *Zedoary*, *Galanga*, *Cyperus*, *Mace*, *Cinnamon*. Of Bitters: *Wormwood*, *Chamomil*, *Bay-Berries*, *Mint*, *Empl. de Baccis Lauri*, *de Cymino*.

Balsams: *Ol. Nutmegs* expressed 3*ss.* *Balsam.*
Peru 3*ij.*

Oyls: Chymical *Ol. Salviæ*, *Caryophill.* *Dill*, *Rheu*, *Amber*.

Bags of *Millet*, *Cummin*, *Aniseed*, fryed with Salt and Oats.

Bread or Flannels dipt in *Brandy*, in which the Aromatics are infused.

Clysters of *Sack*, and carminative *Oyls*, or 3*ij.* of *Aqua Vitæ* added.

Or Purgers added, as *Benedict.* *Laxativ.* 3*i.*
Infus. Croci Metall. 3*ij.* to a Carminative Decoction of *Calamint*, *Penny-Royal*, *Origanum*, *Fl. Chamomil.* and the Seeds, with *El. è Baccis Lauri* 3*iss.* *Oyl of Aniseeds* 3*ss.* in the Yolk of an Egg.

A Cake may be fryed of Yolks of Eggs, and *Cummin Seeds*, and *Oyl of Chamomil*.

Aniseeds, and *Chamomil Flowers*, infused in *Aqua Vitæ* for a Fomentation.

Cupping-Glasses applyed to the Belly.

F 3 Plaster

Plaster Tachamahac, Caranna, and Plaster of Bay-Berries mixt in equal Parts.

A Pound of Ginger may be boiled in a Vessel of small Ale, for ordinary Drink.

In the Cure of *Flatuosities* we must insist chiefly on Digestives, which promote the Fermentation of *Humours*; the discussing the present *Flatuosities*, and evacuating the *slimy Matter* cannot hinder the Production of new *Flatulencies*: but the Curing the *low Fermentation*, perfectly cures all *Flatulencies*; but those which depend on the *Obstruction*, and *Tumour* of the *Viscera*, cannot be cured without a respect to these Distempers that occasion the *Flatuosity*. Such are the *Flatuosities* in the *Tympany*.

And the Distempers of the *Nerves*, as *Hysterick Fits*, and *Asthma*, which produce *symptomatical Inflations* of the *Guts*, which cause *Windiness*; and that is cured by removing the original Distemper.

The *Windiness* appears much in all new fermented Liquors; and the further they are fermented or ripened, the less *windy* they are. The bottling Liquors stops their Fermentation; and therefore, such Liquors are to be avoided in the *windy Cacochymia* of our *Chyle*.

If the Matter in which the *windy Spirits* are included be not well evacuated, the *Carminatives*

minatives occasion a greater *Flatuosity*, by rarefying the *Wind*. *Ginger* and hot *Sherry* I have observed very good in *Windiness* of the *Stomach*, and *Cholicks* thence produced.

Boiling any Liquor that is *windy* evaporates the *Spirits*, and the same *windy Spirits* may be diffus'd out of *Animal Humours* by Exercise or Bathing.

The drinking boiled or warmed Drink with *Steel*, may be convenient in the *Windiness* of the *Stomach*.

The drinking the *Bath-Waters* washes off the *sowre Tartar* from the *Stomach* and *Blood*; and bathing in those *sulphureous Waters* very much exalts the *Fermentation* of the *Chyle*, and higher digests the *Blood*; and upon these accounts, both inwardly and outwardly, it agrees with most cases depending on a depressed *Fermentation* of *Humours*, but disagrees with the contrary, which arise from too high a *Fermentation* of our *Humours*, especially in their beginning, whilst a high *Fermentation* lasts; and for this reason, Bathing dis-agrees with hot *Bloods*, the *Hypochondriac*, *Hysteric*, *Asthmatic*, *Nephritic*, *Convulsive*.

C H A P. VIII.

Of the Serous Cacochymia
of Animal Humours.

WHEN the *Chyle* is no way changed into the *Serum* of the *Blood*, but swims mixed with it, that is the lowest state of *Crudity* in the *Blood*; for the *Chyle* ought to be changed into the *Serum*, by the *Saltiness* and *Qyliness* of the *Blood*, which absorbing the *Acid* of the *Chyle*, it loses its *Milkiness*. The *Serum* and *Chyle* differ most by their *Colour* and *Consistence*; for *Acid Spirit* of *Nitre* makes the *Serum* *Milky*, and *Spirit* of *Sal Armoniac*. makes it clear *Serum* again. We often observe the *Chyle* on the *Cake of Blood* in *milk*y *Spots*, or mixed much with the *Serum* in *Cachectic* Persons; and this is cured by *Chalybeates*, and *volatile Salts*, which turn it to *Serum*.

The next degree of *Crudity* in the *Sanguification* of our *Chyle*, is, when the *Serum* is not digested into a *gelatinous Lympha*, fit for the *Nourishment* of the *Solid Parts*; for the *viscid*

viscid part of the *Serum*, which evidently contains the *caseous* parts of the *Chyle*, as appears by its *Inspissation* by the *Fire*, or *Coagulation* by *Alum*, or other *Acids*, is naturally changed, by a long *Circulation* and *Separation* of its *superfluous Humidity*, by *Sweat* or *Urin*, into the *Lympha salsa serosa*, which being exposed to the cold *Air*, when it is taken out of the *lymphatics*, it presently turns to a *Jelly*.

There may be a further degree of *Crudity* reckoned, when the *gelatinous salsa Lympha*, made out of the *Serum*, does not become *fibrous*, for want of a due *Viscidity* or *Gumminess*; for then we believe *Humours* have attained their perfect *Digestion*, when there appears a *fibrous Hypostasis* in the *Urin*, which depends upon the *viscid* part of the *Serum* turned into the *fibrous Cake* of the *Blood*.

The *rosy* or *red oyly Particles* of the *Chyle* ought to become more *red* and *florid*, by a long *Digestion*, by their *Mixture* with the *Volatile Salt*, and *red Oyl* of the *Blood*; but in *Cachectic Persons* we observe the *Cake* of *Blood* to be of a *pale*, *Pink Colour*, and less *florid*, like *Milk* and *Blood* mixed.

The *Acid* part of the *Chyle* ought to be digested into the *vitriolic Acid* of the *Blood*; but by reason of the *Crudity* of the *Blood*, it keeps

keeps its *tartareous* Nature, and hinders the Rarefaction of the *Blood*, and abates the *Volatility*, both of the *Volatile Salt*, and *Oyl* in the *Blood*.

The abundant *Aquosity* of the *Serum* ought to have been evacuated by *Sweat* and *Urin*; but the *Chyle* being not fully digested, the watery part cannot easily be separated from the *viscid* contents; neither can it acquire its *Salt* Tastes, which fits it for a *Secretion* by its proper *Glands*: hence it will inevitably follow, that the *Veins* and *Lymphatics* are greatly filled and distended by the abundance of the *Serum*, which produces divers Distempers in several parts.

I. If it stagnates in the habit of the *Body*, and is mixed with crude *Chyle*, which cannot circulate through the *Lymphatics*, it produces an *Anasarca*.

II. If it stagnates in any particular Part, it produces external *Tumours* containing *Water*.

III. If it be evacuated into divers *Cavities*, it produces divers sorts of *Dropsies*; as,

1. *Hydrops Ascites*, when the *Serum* breaks the *Lymphatics*, and fills the *Cavities* of the *Belly*, either by Fulness of the *Serum*, or by the Distention of the *Vessels*, which are compressed by the *Tumours* of the *Viscera*.

2. The *Serum* may be evacuated into the *Cavity* of the *Head*, in the *Hydrocephalus*.

3. *Hy-*

3. *Hydrops Thoracis*, is when it is evacuated into the *Cavity of the Breast*.

4. In the *Dropsey of the Womb*, the *Water* is contained in the *Cavity* of it, or its *Testicles*, or distends the *Lymphatics* into *Vesiculæ*.

5. In the *Hydrocele*, the *Water* is evacuated into the *Cods*.

These Distempers depend on too great a *Serosity* of the *Blood*; but they being Evacuations of it into particular *Cavities*, ought to be treated of under that head.

The external Causes of the *Serosity* of the *Blood*, are,

I. A wet and a moist Region, which supplies great, foggy Air, for our Respirations; and by that we imbibe its *Humidities*, and that also hinders Transpiration, and so increases the *Serosity*.

II. A crude, watery, mucilaginous Diet of *Vegetables*, *Fish*, immoderate *Drinking*, *Milk*-*Meats*, *Broths*, *Water* drinking, *Herbs*, and *Fruits*.

III. The Intermission of dew *Exercise*, which ought to discuss by *Sweat*; and that also helps *Chylification*, *Sanguification*, and the *Circulation*, and Secretion of *Humours*.

IV. The Suppression of Evacuations by *Sweat* and *Urin* in the *Stone*, or the Suppression of *Fontinels*, *Menses*, *Hæmorrhoids*, or *Looseness*, make the *Blood* more *serous*.

V. The

V. The Sanguification is weakened by great Evacuations, as *Hæmorrhagies*, *Dysenteries*, *Fluxes of the Menses*; as also, by the *Fluor Albus*, and *Vomitings*, and *Quartanes*.

VI. *Sadness* and *Sleep* stop the Motion of our *Spirits* and *Humours*, and by that means hinder our *Sanguification* of the *Chyle*.

The internal Causes of too much *Serosity* of the *Blood*, are,

1. A weak *Ferment*, and a watery *Chyle*.
2. A *vapid*, watery *Blood*, which is less *florid* and *oyly*, and wants its due *Saltiness*, by which it ought to turn the *new Chyle* into the *Serum*, and the *Cake of Blood*.

3. The *Circulation* of the *Blood* being hindred by any inward *Polypus*, or *Tumour* of the *Viscera*, as the *Lungs*, *Liver*, *Spleen*, *Kidneys*, either cause an *Extravasation* of the *Serum*, or hinder its *Digestion* and *Sanguification*, and the *Stagnation* of it is observed in some part.

The *Circulation* of the *Blood* is deficient in the *languid* and *dying*, and their *Legs* pit.

The *Circulation* being often stopt, occasions that *Dropsies* follow, *Asthma's*, *Hysterical Fits*, and other *Convulsions*.

The Signs of a *serous Constitution*, and of the *serous Cacochymia*, are,

The Use of watery *Meats* and *Drinks*, Evacuations of *Sweat* or *Urin*, or any other stopt.

The

The Swelling of the *Belly, Legs, or Face*, under the *Eyes*, much *Sweating*, or great quantity of *pale Urin*, *watery Stools*, and much *Water* contained in the *Blood*, when let forth, above an equal weight of the *Serum*, in respect of the *Cake*.

The Cure of the *serous Cacochymia* requires,

First, A *dry Diet*, and that which is *heating*, drinking *Wine*, or *strong Beer*, *Roast* rather than *Boiled*, all manner of *salt, bitter, acrid or aromatic Pickles*, and abstinence from much *Liquids*, only *thiss* of *Wine* in a Day, for 40 Days, or else with *Wormwood, Juniper-Berries, Anti-scorbutics, and Ashes* in constant *Drink*.

Secondly, The Evacuation of the *Chyle*, which is *watery*, from the *primæ viæ, Blood, or Cavities of the Body*.

1. By *Purgers*, which, by their *Tithymaline Acrimony*, carry off the *Water*; as *Extract. Esulæ, Pil. De Gambogia. Turbeth.*

2. Or by *Purgers* which have an *acrid Resin*; as *Jalap, Mechoacan, Scammony*; with *Merc. dulcis.*

3. Or by *nauseous Bitters*; as *Syrup. de Spina, Roots and Seeds of Dwarf Elder, Juyce of Briony, Solanum Lignosum, Soldanella, Troches of Alhandal, Elaterium, Extract of Hellebor.*

Or

Or by other gentler *Acrids*; as *Juyce of Iris*.

Or *Vitriolic Minerals*; as *Crystals of Silver, Squamæ Æris, Antimonials, Infusion of Crocus Metallorum, Mercurius Vitæ, Turbeth. Mineral.* and these work by *Vomit*, and evacuate the Serum both ways.

Thirdly, The Serum must be evacuated out of the *Cavities* by *Paracentesis*, unless the *Dropſie* depend on a *Schirrus* of the *Viscera*, for that is incurable.

The Parts may be pricked with a Needle above the Knee, and *Escarotics* applied of *Aſh-Aſkes*, or *Blyſtering Plaſter*.

Fourthly, The *ſerous Matter* is most plentifully evacuated by *Urin*.

1. By *Lixiviums* of *Broom, Juniper, Bean-Aſhes* infused in *White-Wine*, with *Orange* and *Limon* *Peels*, or *Flints* extinguished in *Wine*.

2. By *Salſo-Acids, Tart. Vitriol. Sal Ammoniac.* or *Salt of Wormwood*, and *Spirit of Salt* dissolved in any *diuretic. Julep*.

Sal. Succini, Sal. Prunell. or *Salt of Tartar* nitrated, the *Herb Kali* half a dram three Mornings successively.

3. By *acrid and cauſtic Turpentines, Juniper-Berries*.

Golden

Golden Rod, Conyza Roots, Enula Campane, Squinanth.

Asarabacca Roots, Spikenard.

Leaves of Arse-smart.

Savin, or Pine-Leaves.

Hepatica Terrestris.

4. By watery Caustics.

Ranunculus Hederaceus, Aaron Roots.

Anagallis Mas, Ros Solis.

Squills, Garlic, Acrids ; as Garlic infused in Ale, or its Juyce in Broths or Onions, or Leeks in the same, or Nettle Roots, which have a caustic Juyce in them.

5. By Cresse Acrids.

Infusion of Mustard-Seed in Wine, Spirit of Scurvy-Grass, and the Leaves of Scurvy-Grass, Juyces of Water-Cresses.

6. By aromatic, sweet Acrids ; as,

Daucus, Parsley, Fenil, Dill-Seeds, distilled Water from Water Parsnip, Roots of

~~Rog~~ Fenil, Smallage, Parsley, Chervil.

7. By the smoaky, bitter Acrids ; as,

Eryngio, Scabious, *Carduus*, Roots of Burdock, and the Seeds.

8. By the aromatic, bitterish Acrids ; as,

Penny-Royal, Hyssop, Rosemary, Sage.

9. By the acrid Legumens ; as,

Asparagus, and Butchers Broom-Roots, *Perichlymenum* Flowers, Broom.

10. By the acrid Fætids ; as,

Rheu,

Rheu, Crocus.

Rheu boiled in *White-Wine*, *Posset-Drinks*,
help the *Tympanitical* to make *Water*
plentifully.

11. By the bitter *Acrids* of a *wormwood*
Taste; as,

Sea, and common *Wormwood*.

12. By the *acid Bitters* of a *Mather*
Taste; as,

Radix Rubiæ.

13. By *Acrids* of a *laurel Taste*; as,
Bay-Berries, *Ash-Seeds*, tops of *Holly*,
and *Ivy-Berries*.

14. By *acid Insects*; as,

Millepedes, *Earth-Worms*, *Scarabæi*,
Grashoppers.

15. By *burning Acrids* of the *Orris* kind;
as,

Xyry, Acorus. *Acrids*

16. By the bitter ~~Acorus~~; as,

Grana Alkakengi, *Bacc. Fraxini*, *Bubulæ*.

17. By *volatile Salts*, and *chymical, acid*
Oyls of Vegetables, or *Bitumens*.

18. By *Acid Minerals*, *Spirit of Salt*, *Oyl*
of Vitriol.

By *acid Vegetables*, *Juyce of Limons*, *Cream*
of Tartar. *Vinegar* helps the *Thirst*.

19. By the *lamium Fætids*; as,
Hedera Terrestris.

20. By

20. By the strong Bitters; *Salvia Agrestis*, *Lupulus*, *Scordium*, *Chamædrys*, *Marrubium*, *Vervein*.

21. By the sweet, nauseous Bitters; as, *Centaury*, *Trifolium Palustre*, *Gentian*.

Fifthly, The Serum may be evacuated by Clysters; as,

1. *Urinous*.

2. *Terebinthinate*.

3. Of the bitterest Purgers; as *Coloquintida*.

4. By Sulphurous Medicines; as Infusion of *Crocus Metallorum*.

5. By *Tithymaline Acrids* added; as *Gambogia* 3ss. dissolved in Sack.

Sixthly, A sweating Diet of *Guaiacum*; and with that he may dilute his Wine for ordinary Drink. *Baths*, or *Fomentations*, or the frequent Use of *Venice Treacle*, discuss by Sweat; and the *Balsamum Polychrestum*.

Seventhly, All *Hydropical Tumours* may be discussed by *Baths*, *Fomentations*, *Cataplasms*, *Ointments*, *Plasters*.

1. By the *acrid*, *fætid*, and *aromatic* Plants above-mentioned, being boiled in salt Liquors; as *Sea-Water*, a *Lixivium* of *Ashes*, or *Aqua Calcis*.

2. By the *Stercora* of *Animals* boiled in *Wine*, *Urin*, or a *Lixivium*, and *Sulphur* added to them.

3. By *Purging Unguents*; *Ung. Agrippæ*, *Arthanitæ*, *Oyntments* of *Elder Bark*, and *Dwarf Elder*. By *Oyntment* of *Birch-Bark* and *Leaves*.

4. By *Caustic Plants*, or *Animals* boiled in *Oyl*; as *Oyl of Scorpions*, *Oyl of Flammula*.

5. *Cataplasms* of *Roots* of *Wild Cucumbers*.

Indication requires the higher Fermentation of the *Mucilaginous Chyle*, by the Tastes mentioned in the Cure of a low Fermentation; but these more specifically respect the *Serosities*, and cause its Sanguification.

First, All sorts of *Bitters*.

I. The *nauseous Bitters*, or *Lychnis Bitters*; as *Centaury*, *Buck-Bean*, *Saponaria*.

II. The *Mather Bitters*; as *Rubia*, *Celandine*.

III. The *Wormwood Bitters*.

IV. The *smoaky Bitters*; as *Carduus*.

V. The *Turpentine Bitters*; as *Enula*, *Eupatorium*.

VI. *Lamium Bitters*; as *Chamædrys*, *Mar-rubium*, *Scorodaria*.

VII. The *Pea Bitters*; as *Broom*.

VIII. The *Laurel Bitters*; as *Ash*, and *Birch*, *Bark*, and *Seeds*.

IX. Bitter Gums ; as *Aloes*, *Myrrh*, *Ammoniacum*.

1. These *Bitters* supply the want of the *bitter Acrid* of *Choler*, necessary for *Digestion* and *Sanguification* of the *Chyle*.

2. All *acrid* and *caustic* Plants make the *Blood* more *florid*, and so we find them to help *Sanguification*.

3. All *Salt* Tastes, volatile and fixed, make the *Blood* more *florid*; they supply the want of an *Animal Salt*, which, by absorbing *Acids*, turns the *Chyle* into *Blood*, and promotes the *Mixture* and *Sanguification* of both.

4. *Testaceous Medicines*, the *Calces* of *Minerals*, and *Ashes* of *Animals*, by absorbing the *Acidities* of *Chyle*, help the *Mixture* of it, and the *Blood*.

5. *Oyly, acrid, and resinous* or *oyly* Plants, exagitate the *red* Part of the *Blood*, and supply its defect; as all *Aromatics*, and *aromatic Wines*, and *volatile, oyly Salts*.

6. *Mineral Sulphurs* raise the *oyly, red* Part of the *Blood*; as *Chalybeats*, *Antimonials*, *Cinnabarines*.

I tryed the *salt, clear, limpid Water*, taken out of the *Belly* of an *Hydropical Person* by *Tapping*, and could neither inspissate it by *Fire*, nor coagulate it by *Vitriol* or *Alum*. This was the *crude, lymphatic Liquor*, too *serous* and *crude*; the *Spleen* was *Schirrous* after a *Quar-*

tain: This *Lympha* sometimes appeared *milky*.

Though all the *Serum* be evacuated by *Purgers*, *Diuretics* or *Blisters* on the *Legs*; yet it will regenerate, if the *Digestion* of *Humours* be not raised, and the *Schirrosities* cured which caused its Evacuation into the *Cavities*, and the breach of the *Lymphatics* stopt, which seems impossible.

An *Hydropical* Gentlewoman was *Tapped* once a Week, for fourteen Weeks, and lived in a tolerable State for some time longer, by the help of five Grains of *Laudanum* every Night. No *Diuretic* caused *Water*; but *Wine* and *Water* helped that most, and al-layed the *hectical Symptoms*. Every time after *Tapping* more *Water* was made by *Urin*; but the *Belly* filled with the *Serum* in a Weeks time, and a Gallon or two was taken out every Week; but, at length, the *Belly* did not fill much, but sank, and a *Plaster* laid on helped its *Tumour*; and a *Consumption*, at last, most afflicted the Person who was before so *Hydropical*.

I have observed that *Fomentation* after *Tapping* abates the *hardness* of the *Belly* and *Viscera*.

C H A P. IX.

Of the Fermentation of the Humours into degrees above their Natural State.

WHEN the Fermentation in the *Stomach* is carried too high, the *Contents* of the *Stomach* become *bitter* or *rancid*, very *acid*, *acrid*, or *salt*; and so are all the *Humours* thence produced.

By a strong Fermentation all the Parts of the *Chyle* acquire an *Acrimony*; The *oyly* Part becomes *rancid* and *bitter*, and *stinks*; the *acid Tartar*, being volatilized, becomes *corrosive*, or *acid-acrid*; the *earthy* Part neither adhering to the *acid* nor *oyly* Part, is left in the *primæ viæ*, to go off by *Stool*; and the *Mucilage* of the *Meat* being attenuated by a high *Digestion* or *Putrefaction*, the *Chyle* becomes more *thin*, and *fluid*, and *noxious Ructus* frequently rise from the *Stomach*.

Not only the *Chyle*, but the *Blood* also is vitiated by too high a state of the Principles of the *Chyle*, and from the Volatility of the *Oyl*, and the Pungency of the *Acid*, the *Blood* is made more *florid*, and the *Vitriolic Acid* more *sharp* or *corrosive*, like the *Spirit of Acid Fuyces* high fermented. A *rosy Chyle* will make a *florid Blood*, and an *acrid, bitter, salt, acid Chyle* will give the same quality to the *Blood*, and a *putrid, thin Chyle* will make a *putrid Blood*.

All the Diseases depending on this State of *Humours*, are, the hot Constitutions of *Humours*, and are contrary to the former described; which are the several Species of cold Constitutions; *For* to the *Mucilage of Humours*; a putrefied thin Consistence is contrary; and to the *Acerbity*, a *vitriolic Acidity* and *Saltiness*; and to the *Serosity*, an *Insippation or Viscidity*; and to a *crude Flatulency*, a *rancid Flatuosity*, and *nervine, wandering Pains*.

When the *oyly, acid, earthy or viscid Principles of Chyle* acquire too high a State by Fermentation, they produce these several Species of *hot Cacochymia's*:

1. A *Bitterness of the Chyle and Humours in Cholerick Constitutions*.
2. The *Chyle and Blood in the hot Scurvy have a rancid, oyly State*.
3. A

3. A Viscidity of the Serum, or Inspissation of the new *Chyle* mixed with it, as in *Inflammations and Rheumatisms*.

4. A Saltness of Blood.

5. A Vitriolic Acidity, or Corrosiveness of Blood.

6. A Putrefaction of Blood, which causes its want of Fibers, or Thinness, or Fluidity.

7. A Nidorous Ructus from the Stomach, and a hot, nervine Flatuosity, with convulsive Pains, or hypochondriac or hysterick Symptoms, and a feverish Temper of Blood.

The evident Causes of too high a Digestion, are,

I. A Hot Diet, which digests and ferments too quick; so acrid, aromatic, vinous, Salt, and very sweet Meats, produce an acrid, aromatic, salt, vinous *Chyle*; and Honey and Sugar, and sweet Wines, are apt to ferment too much. All Flesh-Meats high salted, peppered, or pickled, fryed, broyled, or baked Meats, breed a *Chyle* too rancid or hot. Fish, as Salmon, or Crabs, Lobsters, are apt to Surfeit, and putrefie in the Stomach. All Meats a little putrid before they be eaten exalt the Fermentation too much. All Gravies, Anchovies, Oysters, and the Indian Sauces, are too great Stimulaters of a Fermentation in the Stomach, and all those Meats which contain an Animal Ferment in them, as old Cheese.

II. By immoderate *Labour*, by the *Heat* of the *Season*, or the *Countries* nearer to the *Sun*; by *Cares*, *Watchings*, *Anger*, *Joy*, *Pain*, the *Blood* is heated, and its *Circulation* quickened, and *Sanguification* is much promoted.

III. The same Causes produce a *bitter*, *acrid* *Bile*, which promote *Digestion* much, and *Sanguification* also. *Fasting* sharpens the *Choler*; and those who are apt to *Vomit* *Yellow Choler*, and those who digest too fast, have *Choleric Fluxes*. In *Young Men*, and *hot Seasons*, *Choler* much abounds.

IV. The Retention of *salt*, *fætid* *Serum*, for want of *Evacuation* by *Sweat* or *Urin*, produces *Feverish Dispositions*, which cause a high *Fermentation* in the *Blood*.

The internal Causes of too high a *Fermentation*, are,

1. A *spirituous*, *fætid*, *sub-Acid* or *salt* *Ferment* in the *Stomach*, and this ferments too much all our *Aliments*.

2. A *natural oyly*, *acid*, *fætid*, or *acrid*, *salt* *Temper* of the *Blood*, which is apt to ferment too much.

3. A *bitter*, *acrid* *Choler*, which, with the *Tartar* of the *Meat*, produces a great *Salt-ness* of the *Blood*.

4. A *frequent* and *impetuous* *Circulation* of the *Blood*, which raises the *Digestion* of it, which

which happens often in Summer, and to Young Men, by *Passions* or *Surfeits*.

5. *Fætid Humours* retained ferment the *Humours*; as, the *salt Serum*, the *Semen*, the *Choler*, and many extraneous Ferments come into the *Blood* from without, as in the *Itch*, *Leprosie*, *Pox*, the Ferment of *infectious Fevers*, or the *Poysons* from *Mad-Animals*, or venomous Bites of them: All which have their Effects on the *Animal*, by Fermenting its *Humours*.

Such as the *Blood* and *Spirits* of *Animals* be, as to their Qualities, such is the Temper of their *Stomachic Ferment*, for that rises from the other; and any Error committed in *Glylification* is communicated to the *Blood* and *Spirits*.

The Cure of too high a Fermentation requires,

First, That all the Evident Causes be avoided, and that we use a contrary Diet of *crude*, *acerb*, *watery*, *mucilaginous Styptics*; as *crude Vegetables*, *Bistort*, *Lettuce*, *Spinage*, *Cucumbers*, *Sorrel*, *Melons*; *Fruits*; as *Apples*, *Plumbs*, *Cherries*, *Strawberries*, *Sloes*; the *Legumens*, as young *Peas*, *Beans*, boiled *Wheat*; and all the *farinaceous Meats* of *Oat* or *Barley Meal*, *Rice*, or *Pudding*, *Panados*.

The

The Drink ought to be small Beer, or Water two Parts, with a little Wine; or else the Drinking Mead, Elder-Wine, or Wood-Drinks, or Water it self, or thin Milk. Milk-Meats are very useful in this State, for we add Milk to fermenting Wines to stop their Fretting.

Secondly, All Choleric Humours ought to be evacuated, and the Rancid Contents of the Stomach.

I. By Vomiting, with *Carduus*, or *Sal Vitrioli*, or Squills.

II. By Cholagogues, and those,

1. Nauseous Dock-Bitters; as Chewing of Rhubarb, or its Infusion with Manna by Dock-Beer.

2. By Aloetics; *Elixir Proprietatis cum Acido*.

3. By Bitterish and Nauseous Pea-Tastes; as Sena.

III. By the Bitterish, Purging Waters.

IV. By Diagrydiates mixt with Tartar, or some Acid, Rhubarb Powder, by *Pil. Tartareæ*.

V. By Lenitive, Sweet Purgers; as Manna, *El. Lenitiv.*

Thirdly, The oyly, biliary or salt Temper of the Ferment and Blood, and its frequent Circulation, are to be corrected and checked,

I. By

1. By *Acids*; as *Spirit of Salt, Vinegar, Sulphur, Niter, Alum, Conserve of Roses, vitriolated cum Tinct. Rosar.* which coagulate the *Chyle, the Bile, the Salt Serum, and the oyly Particles of the Blood*, and thereby fix them. *Bitters* are always corrected by *Acids*, so the *Bitter of Aloes, Coloquintida* is abated by *Spirit of Sulphur, or Vitriol.*

2. *Styptics* preserve the Consistence of the *Blood*, and hinder or cure *Fevers*; as *Plantain, House-Leek, Tormentil, Cinquefoil, Purslain.*

3. The *Mucilaginous* incrassate or thicken the *Consistence*; as *Gum Tragacanth, and Ichthyocolla, Borage, Bugloss, Emulsions, Lettuce.*

4. *Watery Liquors* temper and dilute *hot Humours*; as *Mineral Waters, Whey, with Syrup of Violets, and cool, bitterish, slimy or acid Juyces, Milk-Waters, drinking Milk and Water.*

5. *Bitterish, Crude Plants* deterge away the *Choler*; as the *Cichory Bitters, as Decoction of Cichory-Roots, or Dandelion in Whey, with Cream of Tartar.*

6. *Opiates* stop the vapid Circulation of *Blood.*

7. *Mercurial Medicines* depress the *Fermentation and cool Humours, and stop Putrefaction.*

Fourthly,

Fourthly, Frequent Bleeding abates the Fulness of *Humours*, and checks their Fermentations, or *Fervors*, or *Ebullitions*.

Fifthly, All Evacuations suppressed ought to be renewed, and all extraneous Ferments to be corrected or evacuated.

Sixthly, Externally we may check the Ebullition of the *Blood*, by applying *Water* and *Vinegar* to the *Pulses*, *Stones*, *Forehead*, *Feet*, and in an extraordinary Case the Patient ought to be put into cold *Water*, or dipt, according to the Method communicated to me by my Ingenious Friend Dr. *Baynard*, a Member of the *College of Physicians*; whose Success by it in Curing such Diseases as depend on too high a Fermentation of the *Blood*, is very well known; and the Practice seems to me very Rational, if managed according to the Rules his Experience has found out.

The Diseases which chiefly affect the *Stomach* upon too high a Fermentation, are, an *Oyliness* and *Rancidity* of its *Contents*, and a *Nidorous Ructus*; The Causes of these are,

1. A *Salso-acid, spirituous Ferment*.
2. *Meats* which are half *putrid*, or *oyly*, or *rancid*, or *fat*, or *fryed with Fat*, and *corrosive*

corrosive Vegetables ; as Garlic, Onyons, or the much Use of Tobacco.

3. Choleric or Salt Humours mixed with the natural Ferment.

Since these *Nidorous Rustus* depend on the Acrimony of *Humours*, and the *Fætid Spirituosity* of the *Ferment*, and the *Putridness* of the *Meat*, they are improperly imputed to a *Crudity* ; for a *Fætor* is rather a sign of a *Putrefaction*, and in no *Crudity* are the *oily, acid Spirits* so far volatilized in the *Stomach*.

The Cure of this *Nidorosity*, is,

1. By *Evacuation*, by *Vomiting* and *Purging*, as is directed.

2. By Correcting the *Oleous Temper* of the *Bile*, or *Ferment*, or *Meat*, by the *Acids* mentioned, as *Cream of Tartar*, *Juyce of Limon*, *Decoction of Tamarind*, *Spirit of Niter* dulcified, with *Spirit of Mint* or *Aniseeds*.

Or by *Salso-Acids* ; as *Sal Prunellæ*.

3. By *Externals*, *Styptics*, *Aromatics*, and *Acids* ; as *Quinces* and *Mint*, with *Vinegar* and *Leaven*.

By too great a Fermentation of the *Meat*, the *Læteal Lympha*, as the *Saliva*, becomes nauseously *Sweet* and *Sharp*, and the *Ferment* of the *Stomach* of the same quality, which produces a *Nauseousness* ; and by

by its *Salso-Acid*, a hot *Cholic*. The *Mucus* of the *Larynx* and *Aspera Arteria* becomes *Sharp*, or *Salso-Acid*, and produces *Coughs*.

The *Milk* in the *Breasts* becomes *bitter*, *rank*, *oyly*, *salt*, *thick*, which gives *Gripes* to *Children*, and *Vomits* them.

The *Semen* becomes *salt* and *stimulating*; as in *Furor Uterinus*.

The *Succus Nervosus* *salt*, or more *lucid* than ordinary; as in *Deliriums*, and more *Oyly* and *Fætid*.

The *Salt Lympha* becomes more *Salt*; as in the *Gout*, *Stone*, *Hæmorrhagies*, and the *Scurvy*.

Those are most disposed to this State of *Blood*, who are of *Choleric*, hot *Constitutions*; for the same kind of Diet produces much *Choler*, which over-ferments the *Blood*; as all *acrid*, *bitter*, *salt*, *aromatic* and *sweet* things, and all hot *Meats* and *Medicines* injure them, but cool ones, and those that are *Serous*, refresh them. The *Choleric* have their *Senses* and *Actions* of the *Mind*, and *Motions* of the *Body*, very quick and ready, their *Passions* of *Anger* and *Revenge* violent, and their *Dreams* cruel, and little *Sleep*, and their *Pulse* full and hard, and all these *Symptoms* depend on *Fiery* or *Choleric*, *Hot Spirits*.

The

The Abundance of *Choler* abates the *Appetite*, creates *Thirst*, and requires a *cool-Diet*, and disposes to *Fevers*, and *Phrenesies*.

The *Erysipelas*, and *Choleric Vomitings*, and *Loosenesses*, and a *bitterness* in the *Mouth*, the *Urin* is *thin*, *yellowish*, or *flame Coloured*, or *red*.

The *Habit* of the *Body* is generally *lean*, and the *Colour* of the *Face* *yellowish*, and the *Hair* *yellow* or *black*.

By these Signs mentioned we may know when *Humours* are too high fermented, and *Choler* produced: but that the Nature of *Choler* may be more fully explained, and the Cure of its *Bitterness* by *Coagulations*, I will annex the ensuing Discourse about its Nature, Use, and Colours, and its *Coagulations* by *Acids*.

Choler may be compared to the *Juyces* of *bitter Plants*, for their *Bitterness* depends on an *Oyl* and *Acid*, mixed with much *Earth*, digested into a particular State, and by the Mixture of these Principles they acquire the Texture of Particles, necessary to a *bitter Taste*.

There is a good quantity of *Water* mixt with *Choler*, whose Superfluity is drawn off by the *Lymphatics*, that the *Choler* might be left more *ropy*. Some of the *bitterness* goes off with the *Lympha*, which gives a *bitterness*

bitterness to it, if it be tasted in the Vessels, which return the *Lympha* from the *Vesica Bilaria*; and because this meets the *Chyle* in the common Receptacle, it certainly helps there its Sanguification, which the *Ancients*, by Mistake, imputed to the *Liver* its self, but that is more rationally ascribed to *Choler*, which is produced by the *Liver*.

The *Principles* of *Choler* are easily mixed with watery *Liquors*, and diluted by them. When it is too *slimy* or *hot*, we use much *Whey* or *Water* for that end to dilute it.

A great quantity of an *Earthy Principle* appears in *Choler*, because it is apt to breed *Stones*, and it leaves a great *Thickness* or *Crassamentum* upon Evaporation.

The *Oyliness* in *Choler* appears in its *ropy Sliminess*, and for this reason it serves *Painters* to mix (like *Oyl*) with their *Colours*; and it is used for the *Washing* of *Cloaths*, because of its *Oyly Parts*. I have observed in ~~Pancreas~~ ^{Fall Cows} a small quantity of *Gall* in the *bladder* of *Gall*, the *Oleous Parts* of *Chyle* being spent most on the *Fat*, and not digested so high, as to produce *Choler*; and the reason that *fat* *Constitutions* are more cool than the *lean*, is, because, they breed less *Choler*.

Spirit of Harts-Horn put into the *yellow Choler* of a *Hog* precipitated it a little, from

from whence, I supposed some *Acid* might be in it.

There is naturally no *Volatile Salt* in *Choler*, but that is made by Fermentation of it, or by a strong Fire in Distillation. This ought much to discourage *Physicians* from confiding in *Chymistry* for the Explaining the Nature and Principles of *Animal Humours*, since it produces so much of a *Volatile Salt*, which is not naturally in *Choler*; and I think I have a much clearer and certain Notion of *Choler*, and its Use, from its *Sensible Qualities*, especially its Taste.

The *Green Choler* of a *Cow* tasted sweet, bitter, sub-acrid, or a little pungent, and it turned Syrup of *Violets green*.

The *yellow Choler* of a *Hog* had the same, but a stronger Taste, and it turned Syrup of *Violets green*.

The *florid* Part of the *Blood* is that which the Ancient Authors meant by the *Bilis Alimentaria*, or *natural Choler*; for the *florid* Part being of an *Oyly* and *Acid* Nature, it is the immediate *Matter* of *Choler*; but the great *Slime* observable in *Choler*, is sent to the *Liver* by the *Spleen*.

All *Choleric Persons* have very *florid Bloods*, and that very *hot*, which both depend on the *oyly, acid, red* Part of the *Blood*.

Choler is easily mixed with *Blood*, if they be stirred together, and so gives a very florid Colour to it, which shews a great Agreement betwixt the *Red* and *Yellow* in *Animal Humours*.

The change of the *red, oyly Acid* in *Blood*, to a *yellow Colour* in *Choler*, is from a further Digestion of the same *Humour*, or a Mixture of a *Spleen Acid* with it; so *Brimstone*, in its Natural State, is mixed with much *Acid* and *Earth*, and is of a *greenish Colour*; but when sublimed, it has less *Earth* and *Acid*, and then is of a *yellow Colour*; but if the *yellow ~~Humour~~* be melted with *Salt of Tartar*, the *Hepar Sulphuris* is *red*, and the *Balsam* made of it, or its *Tincture*; but if a *Lixivium* be made of the *Hepar*, and it be precipitated by a good quantity of *Acid*, it becomes *Milky*, as in *Lac Sulphuris*.

The *Oyl* in *Animal Humours* gives us as great a Variety of Colour, according to its different kinds or quantities of *Acid* mixed with it, as *Sulphur* does in the Experiments mentioned, or in the Variety of the Colours of Metals, which depends on their different Digestions, or Mixtures of their *Sulphur* with a *Mineral Acidity*.

I. The *Oyl* or *Butter* in *Chyle* gives a *Milky Colour*, by the Mixture of it with a *Tartar*.

Tartar Acid, and resembles the Colour and Mixture of *Lac Sulphuris*.

II. The Oyl gives a florid Colour to the Blood, by its Mixture with the volatilized Vitriolic Acidity and Saltiness there, and this resembles the *Hepar Sulphuris* in Colour and Mixture of less Acidity, with a Saltiness.

III. The Oyl in the *Choler* is of different Colours, according to the difference of its *Spleen Acid* mixt with it, or the *Acid* of the Meats digested in the *Stomach*.

I. It is *Green* in *Sheep, Hens, Rabbits, Cows, Dear*, who feed on *Herbs*, which supply a great quantity of crude or acerb *Tartar* to the *Animal Humours*. If we drop *Spirit of Nitre* into *yellow Choler*, it turns it *Greenish*, and our *Excrements* look *Green* from *Chalybeate Water*, in which there is the *Acid* of *Sulphur* joyned with a *Stypticity*. All our *Green Vomits* in *Women* are from a Mixture of *Yellow Choler*, and an *Acid* in the *Stomach*; they taste and smell *Sowre*: They are cured by the grossest *Steel* in *Hysterical Women*, or *Testaceous Medicines* in *Children*, when they are griped by a *Green Humour*; from which Observations it appears, that the *Bilis Porracea* is from a crude *Tartar Acid* mixed with *Yellow Choler* in the *Stomachs* of the *Hysterical*,

or *Hypochondriacal*, or Children Griped by that *Humour*; and the *Green Choler* of the *Animals* above-mentioned is, from the *red florid* Parts of the *Blood*, too much fixed by a *crude Acid*, and much of *Earth*, which those *Animals* have from their Food of *crude Grass*.

These *Animals* have a milder Heat than those who have *Yellow Choler*; the lowness of their Fermentation may be discerned by a less offensive *Fætor* of their *Bodies*, and the watery *Paleness* of their *Urins* in a natural State: From hence we may observe, that all *Green Humours* are signs of *Indigestion*, and a *crude Acidity*, and they are to be cured as the *Tartar Acid* of *Chyle*, already described.

2. The *Paleness* of *Choler* is from a great *Serosity* mixed with it; and this is a sign of a great *Weakness* of *Digestion*, and a *Serous Cacochymia*.

3. The *Sliminess* and *Sweetness* of *Choler* is from a *weak, pituitous Blood*, and a sign of it, and belongs to *Fat Constitutions*.

IV. In *Animals*, whose *Heat* is very strong, and their *Fermentation* more violent, and whose *Bodies* have a stronger *Fætor*, as *Men, Pigs, Cats, Dogs, &c.* the *Choler* is of a *Yellow Colour*.

V. The

V. The *Bilis Vitellina* differs from the *Yellow Choler* only in *Consistence* and *Acrimony*; it is compared to the *Tolks of Eggs*, and is a sign of a *viscid State of Blood*.

VI. The *Blue Choler* is commonly called *Isatodes*, like the Colour *Woad* gives.

This I once observed in a Young *Hysterical Woman*, who Vomited *Blue* after the Death of her Father, and upon a *Surfeit*.

I observed the same *Blue* was Vomited by a Young Person, when all his *Stools* were *Black*; and this *Blue Choler* must be attributed to the *Vitriolic Acidity* of the *Spleen*, or such a State of *Acid* mixed in the *Stomach* with *Yellow Choler*, and this Colour of preternatural *Choler* the *Ancients* attributed to too much *Adustion* of *Choler*, or *Torrefaction*, which brings it near to the Nature of *Atra Bilis*, and this *Choler* ought to be esteemed the lowest State of the *Atra Bilis*.

VII. *Choler* of a deep *Orange Colour*, is what the *Ancients* called *Æruginosa Bilis*, and is the Effect of a *Cholera*, when the *Yellow Choler* is altered by the *Splenetic Acid*, and made *Corrosive*, as the *Ancients* describe it, but it is of no considerable Taste, as those that Vomited it described it to me; it is of a *Brown* and *Yellow Mix-*

ture, as appears by the Linen stained by it. This Vomited plentifully often proves Fatal.

The Cure of this ought to be managed, as in the *Cholera*, by *Vomiting* plentifully at first, by *Glysters* and *Laudanum*, but not *Purging*. It seems very probable to me, that it is the Effect of an intermitting *Fever*, and a Symptom of it, and requires the Use of the *Cortex*, with *Laudanum*, after Evacuation, with *Aqua Pulli*, or *Fosset-Drink*, and *Glysters*, and *Bleeding*, if the Pulse will bear it. This *Choler* is a sign of a *putrid* State of *Humours*.

VIII. *Choler* of a *Flaming* Colour seems to be of a high State of Digestion; so I have observed in a *Fitchet* which stinks much, a *Choler* of a *Red*, *Flaming* Colour, and the higher or hotter the *Choler* is, the less *Acerb Acidity* there is in the *Body*, and the higher its Colour is, the more the *Body* stinks.

In *River-Fish*, the *Choler* is of a *Citrine* Colour, which is only a *thin Yellow*, and is produced by a lower State of Digestion than the *Yellow Choler* of *Quadrupeds*. *Yellow Choler* becomes *Citrine* by diluting it, as it is probable that of *Fish* is much more diluted than the other. I tasted the *Choler* of a *Jack*, which was *Sweet*, *Bitter*, *Sub-Acid*, *Slimy*,

Slimy, and of a Colour like *Oyl of Amber*. *Fish Choler* bites the Tongue, but is less *Bitter* than other *Choler*, because there is less *Fat* in *Fish*, and therefore the *Choler* is less *Oleous* or *Bitter*.

The *Acrimony* or *Pungency* in *Choler*, is like that of *Acrid Plants*, or *Insects*, without a *Salt Taste*, and it seems an *Oyly Acid*, which, like that in *Soot*, is in a near Disposition to be made a *Salt*, by Fire or Fermentation.

The Colour of the *Oyls* amongst *Vegetables* very much explains their several Digestions.

Their *Paleness* is a Sign of a *Serosity* in *Oyl of Walnuts*, and *Milky Juyces* are *Turpentine*s dissolved in *Water*.

Their *Sliminess* of a *Crudity* in *Oyl of Linseed*.

Their *Greenness* of an *Acidity* in *Oyls of Olives*.

The *Sweetness* of *Oyls* shews the middle State they are in betwixt a high and low Digestion.

To the *Yellowness* of *Turpentine* is joyned its *Acrid Taste*, and *Bitterness*.

The *Blue Turpentine*s are higher digested in *Flos Solis*, and *Hypericum*.

The *Rosins*, and *thick Turpentine*s, resemble the Consistence of the *thick Vitelline Choler*.

The *Citrine Balsams*; as that of *Mecha*, and the *Black* ones, as that of *Peru*, represent the State of *Black* or *Citrine Choler*.

There are *Fætid Balsams* and *Gums* which may answer the State of putrefied *Fætid Choler*, which is in Stools of a putrefied Smell.

As to the *Atra Bilis*, I will reserve the Discourse of it to the Chapter of *Vitriolic Acidity*.

Choler may be coagulated by divers *Acids*, like the *Serum* of the *Blood*; but *Choler* most easily.

I put to the *Yellow Choler* of a *Hog*, which was about 3ij. a small quantity of *Spirit of Vitriol*, by which it turned into hard and *yellow Curds*, the *Serum* swimming on the top. I have observed such hard *Concretions* in the Stools of some *Idiatical Persons*, which proceed from such Coagulations by an *Acid*.

Spirit of Salt coagulated it less, and the Coagulations were of a paler Colour.

Spirit of Niter coagulated the *Choler* into *Green Curds*, which were very hard, and the *Serum* was very clear above the Coagulations.

The *Oyl of Tartar* nitrated coagulated *Choler* by its *nitrous Acid*.

The

The *Green Choler* of a *Chicken* was made by *Spiritus Nitri Dulcis*, of a more clear *Green Colour*.

Vitriolate Tartar coagulated *Green Choler*, and the *Coagulum* looked *Yellowish*, as the *Green Choler* always does by the Mixture of the *White Cremor* in the *Guts*, which is *Sub-Acid*.

Alum coagulated the *Green Choler* into *Yellow Curds*, but they looked *White* by adding a *fixed Salt*; so *Alum Waters* precipitate a *White Colour* by *Spirit of Sal Armoniac*.

Neither *Sal Armoniac*, nor common *Salt*, nor *Sal Chalybis*, coagulate *Choler*.

Salt of Wormwood made no *Effervescence* with the *Green Choler*; whence I inferr, that there is no loose *Acid* in it to produce its *Greenness*.

Chymical Oyl of Wormwood swam upon *Choler*, whence it is evident, that *Choler* is not wholly *Oyl*.

Green Choler looked *Yellow* by a Mixture of burnt *Harts-Horn*, which may abate or alter the *Acid* of the *Green*.

It is evident, that *Choler* is not purely a *Stercus Liquidum*; for then it ought not to have been emptyed into the *Guts* so near to the *Stomach*, for its *Gall-Bladder* being there inserted, every Motion of the *Guts* or

or *Stomach*, near its Insertion, must evacuate some Part of it, to mix with the digested Meat descending from the *Stomach*.

The first Use I shall ascribe to *Choler*, is the correcting the *Acidities* of the *Meat* digested in the *Stomach*, for that might other ways *Gripe the Belly*, or *coagulate the Chyle*, or *thicken the Blood*.

An *Acidity* is produced always by artificial Fermentations, and the same is evident in the *Contents* of the *Stomach* of *Pigs*, *Rabbits*, *Sheep*, to any ones Smell. The *Contents* of the *Carnivorous* coagulate *Milk*; and I found that *Bread* digested in the *Stomach* of a *Dog* coagulated *Milk*.

The *Bitterness* and *Acrimony* of the *Choler* corrects this *Acidity* of the *digested Meat*, and, by this means, volatilizes the *Chyle*, because nothing fixes the *Blood* and *Chyle* so much as *Acids* do, especially the *Oyls* and *Salts* in *Animal Humours* are coagulated by them.

Thus *Sulphur* is opened by *fixed Salts*, and *Spirit of Wine* by *Salt of Tartar* is rectified.

II. The Second Use of *Choler* is to prevent too great a Fermentation, or a perfect Putrefaction of our *Meats*; so *Hops* and *Wormwood* prevent the decay as well as souring of our Liquors.

Myrrh,

Myrrh, and other Bitter Gums, preserve Dead Carcases from Putrefaction. Other Bitters, as the *Cortex*, *Gentian*, *Centaury*, and *Chamædrys*, by their Bitterness, stop the Fermentation of Fevers, and hinder the Putrefaction of Humours, and the Gangreen of the Solid Parts; from hence we may inferr, that *Choler* may prevent the corruptive Fermentation of our *Meat* and *Humours*, as well as correct their Acidities.

III. The Coagulation of the *Choler* by the Acidity of the digested *Meat*, helps the *Oyl* of the *Meat* to separate from the *Fæces*, which are of an *Earthy* Nature, to which it was united by an *Acidity*, and the thick *nutritious* Parts of the *Meat* are easily extracted from the rest by the *liquid Juyces* of the *Stomach*, and both the *Oyly* and *Nutritious* Parts being dissolved in a *Liquor* constitute the *white Milky Liquor*, which is our *Chyle*.

I took some dry Reliques of *Peas*, digested in the *Stomach* of a *Hog*, who was fed twenty four Hours before he was Killed with *Peas* only, and *Water*, which smelt like boiled *Gooseberries*, pleasantly *Acid*: I put some *Water* to the digested *Peas*, and made it *Milky*, by Addition of some of the *Hog's Gall*. To the *Liquor* squeezed out of the *Contents* of the *Stomach*, I put some *Gall*, which

which was coagulated by it ; from whence it appears, that *Choler* is naturally coagulated by the *Acid Reliques* of the *Stomach*.

I put some *Spirit of Sal Armoniac* to *Gall* coagulated by *Spirit of Vitriol*, and it produced a *Milky Colour* ; from both these Experiments I did collect, that the Coagulation of *Choler* by the *Acid* of the digested *Meat*, together with the *Oyly Parts* of the *Meat*, produce the *White Colour* of our *Chyle* ; so in Preparation of *Lac Sulphuris*, the *Milky Colour* follows the Precipitation of the *Tartar* by an *Acid Spirit*, and the *Oyly Parts* of the *Sulphur* give a *Milky Colour* ; *Oyly* or *Resinous Liquors*, as *Tincture of Benjamin*, *Turpentine* it self, being diluted with *Water*, become *Milky*. *Emulsions* are *Milky* from the *Oyliness* of their *Seeds*. The best *Oyly* thickened by cold, and the *Fat* of *Animals* have a *White Colour* ; and *Milk* it self has its *Whiteness* from the *Caseous Fibers*, and its *Buttery Oyl*.

IV. The *Choler* has its grosser Parts separated by the *Acidity* of the *digested Meat*, and that gives Colour and Consistence to the *Excrements*, and the *Choler* abounding with much *Slime*, as appears by its *Ropyness* that inviscates the Gross indigested Parts of the *Alimentary Mass*, whereby the *Chyle* (like *Liquor* clarified by the *White of Eggs*) becomes

becomes more pure from the Sediment of *Choler*, and the indigested Parts of the *Meat*, and so only consists of a *thin, slimy, nutritious Juyce*, with *Volatile, Spirituous, Oyly Parts*, which can only pass the *Canals of the Lacteals*.

V. The Fifth Use of *Choler*, is to help Sanguification, and the Production of an *Animal Salt*, of which I will discourse in the Chapter of *Saltiness*.

I mixed the *Bitter Decoction, sine senâ*, with *volatile and fixed Salts*, and these abated its *Bitterness*, which may intimate the Use of them in some *Choleric Cases*. *Cream of Tartar* and *Spirit of Sulphur* more evidently destroyed the *Bitterness* of it. *Common Salt* and *Spirit of Salt* seemed rather to increase than destroy the *Bitterness* of the Decoction. *Mercurius dulcis* made it *Muddy*, but little altered it: the same effect probably those Medicines will have on *Bitter Choler*.

C H A P. X.

Of the Hot Scurvy, or Oyly,
Vitriolic, Rancid State of
the Blood.

THAT *Dyscrasie* of the *Blood*, where-
in the *Oyly* and *Acid Particles* are
too highly exalted, is commonly
called the *Scurvy*, which is divided into the
hot or *cold Scurvies*, according to the various
Constitutions of *Blood* it falls into, for
where the *Oyl* is more abundant in the *Blood*
than the *Acid*, it produces the *hot Scurvy*,
the Signs of which are, the high Colour
of the *Urin*, *red Spots* in the *Skin*, from the
coagulated or putrid *Blood* fixing there in
its Circulation, the *Gums* are *Bloody*, they
are subject to *Fevers*, *Dysenteries*, *Choleric*
Diarrhæa's, *Night-Sweats*, and *Consumptions*;
these Symptoms are produced by the *rancid*
or *scorbutic Bloods*; but in the *nervous Liquor*, the following Symptoms, the *Running Gout*,

Gout, or Rheumatism in the Nerves, Convulsions, Palsies, Apoplexies, hot Cholics, and Asthma, and Crackling of the Bones. Since the Scurvy is cured by Acid Fruits, and crude Plants in Seamen, who have long lived on a Salt Diet; I may hence, as well as from the mentioned Symptoms, observe, that the Scurvy depends on too high a Fermentation of the Blood.

The Causes which produce the Oyly, Acid Temper of the Blood, are those evident Causes which excite an Ebullition, or Effervescence in it, as in all hot Diet of Wines, strong Drinks, and Salt Meats, Sea Air, and Fish, which ~~soon~~ ^{soon} putrefie.

2. The Passion of the Mind, and Studies, and a Sedentary Life, or Suppression of Evacuations.

3. The Scurvy is Hereditary, or Contagious, or succeeds other Diseases; as Fevers, Rheumatisms, Melancholy, Agues, especially the Quartan.

I. The Cure consists in Evacuating the hot, salt, bitter, acrid, and vitriolic or viscid Humours, by the Vomits and Purgers mentioned in the Cure of too high a Fermentation, and frequent Bleeding.

II. By Evacuating the Salt Serum by gentle Sweats, as will be hereafter mentioned, or a Diet-Drink of Sarsa and China,

of each half a Pound, *Harts-Horn* and *Ivory Shavings*, of each one Ounce, boil all in eight Gallons to six, and add *Juyces* of *Water-Cresses*, *Brooklime*, of each two Pints, of *Gill* and *Liver-wort*, of each one Pint, six *Nutmegs* sliced, put all into six Gallons of *Ale*, drink three Draughts in a Day of it.

III. The Salt Serum may be evacuated by *Urin*.

By *Terebinthinate*; as tops of *Pine* in all our *Ale*.

IV. The *Oyl Acid Fætor* of the *Blood*, and its high Fermentation, is to be correct-
ed, By,

1. *Acids*; as *Wood-Sorrel*, *Juyces* of *O-
ranges* and *Limons* mixt with the cooler
Antiscorbutic Juyces, *Conserve of Hips*, *Wood-
Sorrel*.

2. The *Mucilaginous crude Juyces* of some *Legumens* are used; as *Juyce of Fitches* 3ij. in *White-Wine*, or *Juyce of Fumitory*, or *Green Peas*, or *Green Corn* distilled.

3. Other cooling *Mucilaginous Plants*, or *Animal Parts*, are used to cool the *Blood*, and dilute it; as *Juyce of Borage*, *Bugloss*, *Barley Water*, *Emulsions*, drinking *Milk* and *Water*, *Antiscorbutic Milk Waters*, *Mineral Waters*, or *Fountain Water*, or *Water* and *Wine*, *Lettuce Water*, with *Sal Prunell*. and *Syrup of Limons*.

4. The

4. The Acerbs supply their quantity of crudier Acids wanting in the Humours; as Juyces of Apples, Grapes, the Sorrels, House-Leek, the Juyce of spotted Arsesmart, or House-Leek in bilious Diarrhæa's. Coral prepared with Juyce of Limon. Purslain Water with Sal Prunell.

These Styptics, Acerbs, stop the hot Fermentation of Humours; as Plantane boiled in Broths, and Ribwort Plantane.

5. Austere Styptics do the same, as Bark of Tamarisk, Ash, the Cortex.

6. Sweet Styptics of the Fern Class; as Polypody, Ceterach, Maiden Hair do the same.

V. The Coagulations by the Scorbutic Acidity may be dissolved,

1. By the watery Antiscorbutic Acrials; as Juyces of Brooklime, and its Conserve, and Scurvy-Grass and Water-Cresses may be put into Milk with the Juyce of Orange and White-Wine, and that to turn into Posseta Drink.

Spirit of Scurvy-Grass and Sal Armoniac may be given in Milk, or the Juyce of Scurvy-Grass may be so used. Rx Conserv: Beccabungæ, Rad. Cich. Lujulæ, an. 3ij. Ras. Eboni Pulv. 3ij. Sal Prunell. Diatrion, Santal. an. 3ij. cum Syr. Lujulæ. F. Elect.

2. By Vitriolic Chalybeates; as *Sal Vitrioli* dissolved in *Antiscorbutic Milk Waters*, or *Willis's Steel* so dissolved, or *Mineral Waters Chalybeate*, Steel prepared with *Juyce of Apples*, or *Wood-Sorrel*, or *Oranges*, and a *Tincture* may be extracted with *Spirit of Scurvy-Grass*, *Tartar Chalybeate*; as *Cremor Tartari* $\text{Dij. Sal Prunell. Di. Vitriol. Martis gr. iiiij. Capiat cum Fusculis alterantibus.}$

3. By mixed Salts; as *Sal Armoniac. Arcanum duplicat. Vitriolat. Tartar. Nitrous Acids*; as *Sal Prunell.* or Mixture of different Salts; as *Cream of Tartar*, and *Salt*; *Spirit of Salt*, and *Spirit of Scurvy-Grass* mixt.

4. By *Testaceous Medicines*; as *Crabs Eyes.*

VI. The *Choler* must be cleansed,

1. By *Cichoraceous Bitters*; as *Cichory, Dandelion Roots.*

2. By *Dock Bitters* and *Sorrel Roots* in *Beer*, or *clarified Whey.*

3. By *Chewing Rhubarb*, and *Purging Waters*, and the *Chalybeate.*

4. It must be diluted by *Milk* and *Water*, by Avoiding fermented strong Liquors, and all hot Diet.

C H A P. XI.

Of the Viscidity of the Serum, or Inspissation of the Chyle new mixed with it in the Sizie, Rheumatic, or Inflamed Bloods.

THREE is a Natural *Slimy Viscidity* in all the *Lacteal Lympha's*, and *Milky Humours of Animals*, and this is like dissolved watery *Gums* in its Natural State; but beside this *Viscidity*, there is another naturally in the *Cake of Blood*, which makes it congeal and stiff when cold: this natural *Viscidity* is altered by too high a Fermentation of *Humours*, and becomes like *Inspissate Gums*, which is the *Gummy Viscidity*, or *Gelatinous*, like *Jelly Broths*.

1. The *Lympha Lactea*, such as the *Spittle*, becomes of a *Gummy Consistence*, and covers the *Tongue* with a *white Skin*, and

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all the *Phlegm* from the *Salivatory Glands* is *Viscous*.

2. The *Mucus* of the *Aspera Arteria* is *Viscid*, and is formed into *Globuli*, such as the *Grando Pulmonum*: This *Mucus* is also thickned by *Stagnation*, during which, the *Heat* of the *Body* dries it; or the *Air* by its *Cold*, or *Nitrous Particles* thickens it; or the *Nutrimen*t of the *Nervous Membranes* is deposited into the *Vesiculæ*, being depraved or hindred in its *Assimilation*.

The *Sub-acid Mucus* of the *Stomach* and *Guts* is made more *Viscid* by *Fevers*, or *hot Diet*, and this lines the insides of the *Stomach* with a *Pituitous Saburra*, which hinders the *Sense* of the *Appetite*.

4. The *Lymphatic Vehicle* of the *Spirits* is made more *Viscid* in the *Palsie*, *Apoplexy*, and *Sleepy Distempers*.

5. The *Humours* of the *Eyes* are sometimes very *Viscid*, and reflect the *Light* by flying about in the *Eye*, like *Motes* in the *Sun*, and the *Thickness* of the *watery Humour* is a *Cataract*, but that of the *Crystalline* produces a *Glaucoma*.

6. The *Thickness* of the *Chyle* produces *Obstructions* in the *Læteals*, and that in the *Breast Inflammations*.

By the *Thickness* of the *Læteal Lympha's* *Scrophulous Tumours* are produced in all the

the Conglomerate Glands, or at least Carrhs.

The Seminal *Lympha* of the *Vagina* or *Testicles* being too *Viscid*, may produce *Sterility*.

This *Viscidity* of the *Chyle*, and its *Lympha's*, may be called the *Gummous Viscidity*, which is produced by *Thickning* their *Natural Mucilage*, for a watery *Gum* differs only from a *Mucilage* by its *Insipillation*; for the *Mucilages of Plants* may be boiled into a *Gummy, Tenaceous or Emplastic Consistence*, and the *White* of an *Egg* grows hard by the *Heat* of the *Fire*.

There is another Species of *Viscidity* proper to the *Serous Lympha*, when it is *inspissate* by *Heat*, or *congeals* by *Cold*, or *coagulates* by an *Acid*. *Broths* long boiled become *Viscid Jellies*, and they melt with the *Heat*, because of the *Oyliness* mixed with them. *Turpentines* and *Oyls* leave a *Colophony* upon the Separation of their *thinner Oyl*; and such a sticking gluey Substance is made by the *Oyl* of *Harts-Horn*, when the *thinner Oyl* is distilled off from it.

The *Serum* of the *Blood* *inspissates*, as it does in a *Spoon* at the *Fire*, by long *Fevers*, and it produces *Tumours*, and *Obstructions* of the *Parts*, and *Rheumatic Pains*,

and *Pustules* in the *Skin*. This *Viscidity* of the *Serum* makes the *Urin* to have *thick Contents*; as in *Rheumatisms*, and all *Inflammations*, *Catarrhs*, *Fevers*. It produces *Pains* by stagnating in the *Lymphatics*, and by being stopt out of its *Glands*.

The *Blood* it self becomes of a *viscid Consistence*, and produces *Polypous Concretions*, and *Palpitations*, and *sudden Syncopes*. The *viscid Blood* stops the *Flux* of the *Menses*.

The *Consistence* of the *Choler* is thickened by too hot a *Diet*, which thickens its *ropy Slime*, and produces the *Faundice*.

The *Slimy Lympha* of the *Spleen*, thickened by too high a *Fermentation*, produces *Obstructions* in the *Spleen*, or this is thickened by being coagulated by its own innate *Vitriolic Acidity*, or by *Stagnation* of the *Slimy Humour*, or *Transmission* of *Viscid Humours* there after *Quartans*. The *ropy Vehicle* of the *Bile* may be coagulated by the *Vitriolic Acid* of the *Spleen*, and produce the *Atra Bilis*.

The *Salso-acid Temper* of the *Blood* may coagulate the *new Chyle* which comes into it, and so produce all the *Inflammations*, *Pains*, *Tumours*, *sudden Death*, *Suffocations* in *Catarrhs*.

The evident Causes of the *Gummosus* and *Gelatinous Viscidities*, are,

i. Too

1. Too much external Heat of *Air*, *Cloths*, *Baths*, *Fire* which inspissate by Evaporating the watery *Vehicle* of the *Ca-
seous Parts* of the *Serum* and *Lympa's*.
2. Too much *Cold* thickens *Liquors*, which, by Constriction or Compression, stops the Motion of the *Active Particles*, which cause their *Fluidity*, and their *Viscid Particles* cohere like *Oyls* thickned by *Cold*, or the *Blood* thickned by the *cold Air*, when out of the *Vein*.
3. *Acrid Meats*, or the *Aromatic Spices*, or *Vinous Liquors*, by their *fiery Particles* thicken the *Mucilaginous Humours*; so the *White* of an *Egg* is hardened by *Spirit of Wine*, and the *Serum* of the *Blood* in them who drink *Brandy*.
4. The thin *Serous Parts* are evaporated by too much *Sweat*, immoderate *Exercises*; by *Watchings* and *Passions* the quantity is abated; by *Diarrhæa's*, much spitting in taking *Tobacco*, or great *Fluxes of Urin*, by which, the *Blood* is made *grumous*, or void of *Serum*.

5. The great Use of *Viscid Meats*; as *Fish*, *Jellies*, *Mealy Vegetables*, *Rice*, *Wheat*, &c. or by *strong*, *thick*, *Viscid Ale* or *Wines*, or the much Use of *White Bread* made without *Bran*.

The internal Causes of *Viscid Humours*, are,

1. A *Rancid*, hot Fermentation of the *Meat*, so as to resemble *fryed Eggs* by their *Ructus*.

2. *Acrid Choler*, which hastens the *Digestion*, and quickens the *Sanguification*, and evacuates the *Serum* by *Urin*.

3. The *Natural, Oyly Temper* of the *Blood*, which resembles the *ropy Consistence* of other *Oyly Liquors*, or the *Salso-Acid Temper* which carries the *Serum* off by *Urin*, as the Medicines of that Taste, or else a preternatural Fermentation, which makes the *Blood* of the *Scorbutic* like a *Jelly*.

4. The *Blood* is often coagulated by its own *Acids* so, if, through Exercise, or hot Diet, it be rarified, and suddenly cooled with external Accidents, as sitting in a cool Place, or cold Air, the *Serum* of the *Blood*, or the new *Chyle* mixed with it, becomes a *viscid Jelly*, which stopping its Circulation in the *Glands, Membranes, and Muscles*; it produces all the *Inflammations* with Pain and Heat, so *Milk*, when *sowre*, often coagulates by being boiled, and *Milk* injected into a *Vein* is presently coagulated.

5. The *Vitriol Acid* of the *Spleen* coagulating the *Lympha Lactea* produces the *Scrophulous Tumours*, or the *Cancerous*; by coagulating the *Serum* it produces the *Arthritis*

thritis Vaga Scorbatica, and this is properly the *Caseous Viscidity* which is in all *Animal Humours*, and may be precipitated from them by mixing an *Acid* to precipitate it, and coagulate it.

6. A *Putredinous Ferment* coagulates all *Humours*, as *Milk* with *Rennet* is turned; the *Plague Infection* coagulates the *Blood*, and the *Exanthemata* are its coagulated and mortified Parts; the *Serous Lympha*, by the venomous Ferment of the *Itch* and *Pox*, is turned into *putrid Matter*; and the Bite of a *Viper* coagulates the *Blood*, and precipitates its *Viscid Parts* from the rest of the *Mass*.

The Cure of the *Viscidity* requires,

I. A thin, watery cool Diet, and Abstinence from fermented Liquors; as *Whey*, *Milk* and *Water*, *Wine* and *Water*.

II. The hot Contents and Ferment of the *Stomach*, and *Acrid Choler*, must be evacuated by the *Vomits* and *Purgers* described in the Cure of too high a *Fermentation*.

But it must be observed, That *Purges* in all *Inflammations* are improper in the beginning, but very profitable after large *Phlebotomies*; when the *Viscid* has had time to putrefie and digest, it will easily pass the *Intestinal Glands*, which it cannot do at first;

first; and, for the same reason, *Diuretics* nor *Sudorifics* do no Service till the latter end, that is, after fourteen days, when the *Viscid* is putrefied; and this is agreeable to Experience in *Rheumatisms*.

III. Frequent *Bleeding* carries off much of the *Viscid Serum*, and *Vomiting* that of the *Viscid Slime* in the *Stomach*, as well as the *Choler*.

IV. The *Acrid Ferment*, and *sharp Choler*, and the great *Fervour of Humours*, must be corrected by the Tastes mentioned in the Cure of *too high a Fermentation*.

V. The preternatural *Scorbutic Fermentations* must be cured as the *hot Scurvy*, or prevented.

VI. All *Putredinous Ferments* are to be avoided, as well as sudden taking cold, or drinking cool Liquors.

VII. The *Viscidity of Humours* must be diluted by watery Liquors; as *Asses Milk*, *Whey*, *Mineral Waters*, and *Milk Waters*, which may supply the *thin Serum* which is evaporated.

VIII. The *Viscidity* must be attenuated, and incised, and gently putrefied, by which it is made more *fluid*, so that it may pass off by *Stool*, or *Urin*, or *Sweats*; so the *viscid Spittle* in the *Pipes of the Lungs* is at first *glutinous*, and sticks too fast to be Coughed

Coughed up; but after some Days it becomes *purulent*, and more *fluid*. In *Rheumatisms* the *Siziness* putrefies after some time, and passes off thick *Contents* in the *Urin*, or *glutinous Sweats*: The *Salso-Acids* will help its passing off; as *Sal Prunell*. *Vitriolate Tartar*; *Sal Armoniac*.

We know no Medicines which will help the Putrefying of the *Viscid*, but those which ripen *Imposthumes*, or help the ripening of the *Phlegm* in the *Lungs*, as the *sweet Slimy Roots*; and Fruits may be useful, as *Pectoral Decoctions*, and *Ptysans*, and keeping the Body in a moderate Heat, and moist thin Diet.

The watery *Antiscorbutics* dilute the *Viscidity*, and incide it, or else are good *Diuretics*; but I learnt by the following Experiment, that no *Pungency* can incide or attenuate the *sizy Blood*.

I cut the *Skin* off the top of such *Blood*, after it was cool in the *Dish*, and put it into *Spirit of Sal Armoniac*, which could not at all dissolve it, neither do I think it possible to reduce the *White* of an *Egg* boiled, to its former *Fluidity*. It is, therefore, by *Putrefaction* alone that Nature dissolves and attenuates all our *Viscid Humours*, and that makes *Eggs* fluid.

IX. The Coagulation of the *Chyle* or *laetæal Lympha's*, or the *Serum*, must be prevented.

1. By Evacuating all *Acids* by *Vomits*, and *Aloetic Purgers*, to which *Salt of Wormwood*, *Steel*, or *Mercurial Powder*, or the *Testaceous*, are added.

2. The *Acidity* is cured by *Steel*, or *Mercurial Medicines*, or *Salts*, *Ashes of Animals* and *Vegetables*, the *Calces of Minerals*, by *petrefied Stones*, or the *testaceous Powders*.

X. The Circulation of *Viscid Humours* may be promoted by *Chalybeate Vitriols*, by *Volatile, Oly Salts*, or by the *Aromatic Acrids*, or *bitter Plants*. So Agitation alters the *Viscid Sliminess* of the *White of an Egg*.

XI. The attenuated or putrefied *Viscid* must be expelled by *Sweats*.

1. By the *Acrid Woods*, or *Volatile Salts*.

2. By *Cathartics* of *Mercurials*, which precipitate the *Viscidities* by their *Stypticity*, and mix with all *Animal Acids* most freely, as appears by Killing it with *Spittle*, and passes the *Lymphatics* and *Glands* most easily of any Medicine.

Or by *Cathartics*, which are *gummosus*, and by that cohære with the *Viscid Slime of Animals*, and purge them off, as *Gum Pills*, with *Purging Rosins*.

XII. The putrid *Viscid* may be precipitated out of the *Blood* by *Styptics*, as the *Cortex*, or *Acerbs*; so *Sloes* pounded in a Mortar are put into *ropy Wines*, to precipitate their *Mucilage*, and they shake them together, and after eight Days it is clear.

Vitriol. Martis much helps the Depuration of the *Blood* after *Rheumatisms*.

C H A P.

C H A P. XII.

Of the Saltiness of the Blood,
and other Humours.

1. **A**N Animal Saltiness may be tasted in the Stomach of the Carnivorous Animals; but that depends on the Taste of their Flesh-Meat digested, which contains the salt, serous and nutritious Juices of another Animal, or else it is the natural Taste of the Lympha, which is the Ferment of their Meat, and is produced in the Blood, and brought thence into the Stomach; but this Saltiness depends upon the Nature of our Diet, and is externally taken into the Humours, and not produced by them; but we may inquire whence those Animals have a Saltiness of Blood, who feed on Vegetables which taste not Salt in the Stomach.

2. A Salt is made in the Guts of Birds, and other granivorous Creatures, by the Mixture

Mixture of *Acrid Bile*, and the *Acidity* of the *Cremor*, expressed in the *Gizern*, from the *Seeds* on which they feed, and which have not acquired any *Salt Taste* in the *Stomach* by *Digestion*.

That an *Acid* makes part of a *Salt Taste*, is sufficiently evident by the *Dissolution* of *Crabs Eyes* in *Vinegar*, which produce a *Saltish Taste*.

Common *Sal Armoniac* tastes more *Salt* than either *volatile* or *fixed Alkalies*, both which probably have some *Acid* in their *Composition*, as well as that ; for *Green Plants* yield more *Salt* than the *dry* ; and because we observe no *Acid* in the *Distillation* of *volatile Animal Salt*, nor much *fixed* in the *Caput Mortuum*, it is probable, that the *Acid* in the *Humours* is spent in the *Composition* of the *volatile Salt*, and gives a *Salt Taste*, for an *Acid* put to a *volatile* or *fixed Salt* makes them taste more *Salt*. 3i. of *Salt of Harts-Horn* will imbibe 3ij. of *Spirit of Salt* before the *Ebullition* ceases, and they be resolved into a *Liquor* ; and from hence it appears, how much the *volatile Acrid of Bile*, and the *Salt* produced in the *Blood*, may imbibe from the *Acid* of *digested Meat*.

Common *Salt* yields a great deal of *Acid* upon *Distillation* ; and we can meet with nothing

nothing of a *Salt* Taste in Nature, but what is made of an *Acid* and *Earth*, or other *Salt*. The *volatile* and *fixed Salts* are made by the *Fire*, and they are most clear from *Acidities*.

We taste this *Saltiness* in the *Chyle* as soon as it comes into the *Lacteals*, and this is of a *Salso-Acid* Taste; but when it is vitiated by too great an *Acidity* of the *Meat* too high digested, or the *Acrimony* of the *Choler*, it may properly be called a *Muriatic Saltiness*.

This Natural *Saltiness* swims in the *Serous* Part of the *Chyle*, and passes with it into the *Blood*, and the *Urin* seems to be produced from this *Salso-Acid Serum*, when it has parted with the more *Caseous*, *Nutritious* Parts of the *Chyle* in the *Blood Vessels*.

That the *Choler* may help to produce the *Excrementitious* Parts of the *Urin*, as well as that of the *Stools*, seems probable, because we observe *Stones* to be bred in the *Gall Bladder*, as well as in the *Urinary Passages*, which seem to be *Choler* coagulated.

Bitters are accounted *Diuretics*, and the *Gall* does naturally pass by the *Urin* in the *Faundice*, and usually gives a *Citrine*, or *Red*, or *Yellow* Colour, or *Black* to the *Urin*.

Choler

Choler easily dissolves in *Water*, and seems to give it a Colour like *Urin*. All mixt *Salts* resemble the Mixture of *Choler*, and the *Acid* of the *Meat*, and are *Diuretic*; as *Sal Armoniac*, *Tart. Vitriol*. *Sal Succini*, *Sal Prunellæ*. All *Acids* are *diuretic* by fixing on the *Choler*, as the *Tartar Acid* of the *Stomach* does; and *volatile Salts* mix with the *Acid* in the *Stomach*, and pass by *Urin*. The superfluous Parts of the *Chylous Substance* produce the *Contents* in the *Urin*, which makes it probable, that the *Salso-Acid* part of the *Chyle* produces the *salt, serous* part of the *Urin*, and that *Salso-Acid* is produced from the *Choler*.

3. There is another sort of *Saltiness* which we taste in the *Serum* of the *Blood*, and this is in a great quantity.

Those *Animals* who feed only on *Grass* and *Fruits* digest their *Meats* in their *Stomachs* only into a *volatile Acidity*, and not a *Salt Taste*; these therefore must farther digest their *Nourishment* till it come near to a *Putrefaction* before it can produce an *Urinous Salt*, for we cannot extract any *volatile Salt* out of *Vegetables* till they have been putrefied, and then they yield *Urinous Spirits*, and by putrefying *Blood*, *Urin*, or *Choler*, a plentiful *volatile Salt* is produced, separable by a gentle Heat.

The Sanguification of our *Aliments*, dissolved by Digestion, seems to have these several steps ; for by correcting the *Acidities* of them, they are turned into *Blood*. *First*, The *Choler* mixes with the *Acidity*, and turns the *Chyle White*. *Next*, The *salt Serum* of the *Lymphatics* mixes with the *Chyle*, and turns it *Rosy* or *Reddish*. *Last of all*, The *Salt* of the *Blood*, and the *Oyly Parts* of the *Blood*, unite with the *Oyly Acid Parts* of the *Chyle*, and the more *Serous Part* turns into *Serum*, which contains the *Caseous* and *Watery Parts*, and the *Salso-Acid Aqueous Superfluities* pass off by *Urin*.

The Natural *Tartar* in the *Chyle* mixing with the *Salt* generated in the *Blood* produces the *Armoniac Salt* of the *Blood*, which if it were purely *Volatile*, it would preserve the *Blood* from *Coagulation*, as *Spirit of Harts-Horn* does, and would more easily rise by *Distillation*, but neither of these happen ; and *Spirit of Sal Armoniac* blackens the *Blood*, which is taken from the *Vein*, if we bleed upon it ; but the natural *Salt* of the *Blood* rather makes, or at least does not hinder, the *Floridity* of the *Blood*, and therefore I call the *Salt* of the *Blood* a mixt *Armoniac Salt*, produced by a half *Putrefaction*, or long *Resolution* of

of the Parts of our *Chyle*, in which the *Oyly Acids* of the *Blood* joyn with some *terrene Parts*, upon the ultimate Resolution of the *Nutritious Juyces*, and produce a *Salt* which has that Taste from the Mixture of an *Acid* and *Earth*, and the *Volatility* and *Pungency* depends on the *volatile Oyl* mixt with them ; this smells *Urinous*, and is carried off naturally by *Sweat* and *Urin*.

By the Rise of the *Muriatic Saltness* from the *Choler* it appears, that *bilious States of Humours*, by a higher Digestion, become *Saline*, or *Muriatic*, and the Signs of each Constitution differ only in degrees.

The *Pulse* is great, frequent, and hard ; the *Thirst* is great, and they drink frequently ; their Taste of the *Saliva* is *Salt* ; the Colour of the *Urin* thin, citrine, salt or bitterish ; the *Habit* of the *Body* is *thin* and *lean* ; the *Heat* is *sharp*, and the *Stools* of a *burnt Yellow Colour*. Cool things agree with them, but salt and hot inflame them, and they ill bear *Fasting*.

The *Chyle* is *Salso-Acid*, and that makes the *Lacteal Lympha* of that Taste, and then produces *Thirst*, *Vomiting*, or *Gripes*, *Diarrhoea's*, or *Catarrhs*, and *Inflammations* of the *Mouth*. The *Semen* is made stimulating in the *Salacious*.

The Nervous Fuyce being salt, produces wandring Pains.

The Salt Serum being over salt, produces the Stonē, and Gout, and Strangury.

The Saltness of Nurses Milk produces Pains in the Breast, and Gripes in the Children, and Sore Mouths.

The Saltness of the Nutritious Fuyces produces the Scab, or Consumption of the Parts ; it destroys its Natural Caseous, Nutritious Parts, and carries them off by Urin.

The Blood is made more thin by being very salt, its thick Viscid Parts being corroded or precipitated, as in Hæmorrhagies ; and corrodes, as in the Menses.

The Choler is made more acrid and bitter, and of a darker Brown Colour.

The Fuyces of the Spleen become Salso-Acid, and less slimy, and less fit to separate the Choler from the Blood.

The Tears of the Eyes corrode and inflame them when over salt, and dry into a Gumminess.

The Salt Saliva corrodes the Teeth, and the Gums shrink or dry, and waste away, as in the hot Scurvy.

An Atrophy dries up the Flesh, as Meat over-salted shrinks.

The external Causes of the Muriatic Saltness, and the Armoniac Saltness, very much

much are the same, but these particularly of the *Muriatic Saltness*.

1. *Salto-Acid Aliments, Salt Fish, Salt Water, Salt Sea Air.*

2. The Evacuations of the *Acrid Choler*, and the *Spleen Acid* or *Tartar Acid* being stopt in the *Binding of the Belly*.

The external Causes of the *Vinous Saltness*, or the *Armoniacal*, are,

1. *Acrid, vinous, bitter and aromatic Meats.* Fasting makes the *Humours* more *acrid*, and *sweet Diet* becomes *bitter, acrid, on Digestion*.

2. A *laborious Life*, with much *Exercise*, too much *addictedness to Venery*; for the *Lympha* returning from the *Testicles* becomes *fœtid*, and ferments the *Humours* more.

3. Too much *Watching, Anger, Cares*, inflame the *Spirits*.

4. The Evacuation of the *Salt Serum* by *Water or Sweat* being suppressed, or the *Binding of the Body*.

Whatsoever ferments the *Blood* too much breeds *Choler*, and that the *Animal Saltness*.

The internal Causes of *Saltness*, are,

1. The Natural *Saline Temper* of the *Blood*, which supplies a Ferment for the *Chyle* of the same Nature, to turn it into the like *Saltness*.

2. Too quick a Circulation of the *Blood* excites too great an *Ebullition*, and makes the *Choler* more *acrid*, and the *Salt* more *sharp*, and in greater quantity.

3. The *acrid Choler*, and *sharp Acid* of the *Spleen*, or *Tartar Acid*, which is *corrosive*, produce the *sharpest Salt*.

4. A preternatural Putrefaction in *Fevers*, or long *Effervesences*, make the *Blood* very *salt*. So a *Cancer*, *Fistula*, the *Itch*, or *Lues Venerea*, or *Consumptive Lungs*, *Kidneys*, or other *Viscera*, give a Ferment to the *Blood*, and putrefie it into a *Saltiness*.

The Cure of the *Muriatic* and *Armoniac Saltiness* requires,

I. To abstain from fermented Drinks, and to use watery Liquors; as *Milk* and *Water*, and the Decoction of the *cooler Woods*, *Wine* and *Water*, or *Water* boiled with *Coriander Seeds* and *Sugar*.

To abstain from *Salt Meats*, and those dried in *Smoak*, or *Pickles*.

To abstain from Ferments; as *old Cheese*, *Fish*.

To use slimy Meats; as *new Cheese*, *Fruits*, *Farinaceous Meats*, and *Milk Meats*, *Snails*, *Tortoises*, *Jellies*, *Cray Fishes*, *Tripes*, and the *Feet* of *Animals*, and *Young Pigs*, *Goat*, *Lamb*, *Veal*.

In short, The Diet must be *crude, watery, acerb, mucilaginous, farinaceous, sub-acid.*

The Air *dry*, and not *foggy Sea Air.*

II. The Salt *Humours* must be evacuated by the *Sennate, Rhabarbarate, and sweet Manna Purgers*, with *Acids* added, or the *Purging Waters*, which are *nitrous, or aluminous, or vitriolic*; these wash and cool by their *Waterishness*, and precipitate the *Salt* by their *Stypticity*.

Hydragogues, which evacuate the *Serum*, abate the *Saltiness*.

III. The *Salivation* by *Mercury* evacuates plentifully the *Salt Serum*, and *Æthyops Mineralis* and *Merc. dulcis* correct the *Saltiness* by joining with the *salso-Acid* of the *Blood*; and all *Mercurials* depress the over-Fermentation of the *Blood* as much as *Chalybeates* exalt the low Fermentation.

IV. The *Salt Serum* is sweat off by *salso-acid* or *urinous Medicines*, and for the same end we use *Baths*, and much *Exercise*, the Decoctions of the *Acrid Woods*, and *Frictions*, and *Fontanelles*.

V. *Diuretics* plentifully evacuate the *Salt Serum*; as all *Acid Diuretics*, and the *testaceous and bitter cichoraceous Plants*.

VI. The Saltiness of the Blood, and the Ferment of the Stomach, the acrid Bile, or sanguineous, sharp Acid, or that of the Stomach, must be corrected, and the frequent Ebulition, Circulation or Putrefaction removed.

1. All Acids correct volatile Salts and Oyls which are fætid, and all Lixiviums are made more mild by Acids.

2. The mucilaginous Temper, the Acrimony of Salts; as Gum Tragacanth Powders, Decoction of Snails, Althæa Roots, and Emulsions.

3. The Saltiness may be diluted by a watery Diet or Medicines; as thin Broths, Whey, Chalybeate Waters, Milk Diet, and distilled Milks, Watergruel.

4. Opiates and Styptics stop the Motion of the Blood.

5. Bleeding evacuates the Old Blood, which is most salt; and the New Blood, which comes in its room, is more fresh, and less salt; so Broths of Flesh Meat are salted by long boiling.

6. All Extraneous Ferments ought to be removed from the Blood; and by the Cortex, or other Antifebriles, the Fermentation must be stopped.

That the Urin contains an Acidity naturally in it, appears by the Correcting of Colocynthida by it, whose Bitterness is made near insipid by it.

The Purging Quality in the *Coloquintida* is enervated by the *Urin*, as well as its Bitterness. Hence it appears, how great a Correcter of *Choler* the *Urin* may be, and how much it may preserve the *Humours* from *Putrefaction*, as it preserves *Ulcers* by its *salso-Acid* Taste.

A *Lixivium* of *Oyster-shells* changes the Bitterness of the Species of the *Bitter Decoction* boiled in it into a *Sweetness*, and this therefore may be used to correct *Choleric Heart-burning* in the *Stomach*, and this may correct the *Bitterness*, as well as *Acidity* of *Humours*. But from this Experiment let our Prescribers consider, whether they do not abate the *Vertue* of the *Cortex*, by extracting it with a *fixt Salt*, since the *Taste* of it is altered thereby.

I remember, a *Tincture* of *Wormwood* made with *Brandy*, and *Salt of Wormwood*, did not taste very *bitter* by being made with a *fixt Salt*; but that made with *Spirit of Wine*, and a little *Oyl of Sulphur*, was very *bitter*; and in the *Vomitings* of our Patients we find both very *bitter*, and very *sowre*, which did not correct each other, but a *fixt Salt* in this case may correct both *sowre* and *bitter*.

C H A P. XIII.

Of the Vitriolic Acidity
of the Blood.

IN the most *Healthful Blood*, we discern many Tastes besides a *Sweetness* and *Saltiness*; a *vitriolic* or *chalybeate* Taste is evident, therefore we cannot doubt of the *vitriolic Acidity* of the *Blood*, nor that it is produced from the *tartareous Acidity* of the *Chyle*, which, by *Digestion*, is exalted, and volatilized into a *sulphureous Spirit*. The *Acid sulphureous* fumes from the *Earth*, produce the *Tartar* in *Plants*, as it is mixt with *Earthy Parts*; but by the *Animal Digestions*, and *Fermentations*, and *Precipitation* by *Salts*, the *Acid* may recover its *Mineral Nature*, and appear to be a *vitriolic Acid* in the *Blood*, or else it may acquire that *Savour* by its *Mixture* with the *oyly, acid, fætid Particles* of the *Blood*, which somewhat resemble *Sulphur*.

This

This vitriolic Acidity was the Natural Alimentary Melancholy of the *Blood*, which the Ancient Physicians observed in it. They called it a *Black Humour*, which gave the *Blackness* to the *Blood*; for it is certain, that *Acids* turn the *Blood black*. They believed there was an Astriction in this *Humour* to bind the *Belly*; and it is plain, by the vitriolic Taste, that it is capable of Binding the *Body*; for *Spirit of Vitriol* and *Vitriolum Martis* bind the *Body* by their *Stypticity*, though *tartar Acids* purge, and have not that effect, unless they be *acerb*. They believed it to be cooling and drying, because of the cooling quality of *Vinegar*; and by being a great *Diuretic*, both *Vinegar* and the *vitriolic Acid* dry up or evacuate the *Succus Nutritius*. All *Melancholy Persons* are great *Spitters*, and make too much *Urin*, and the *Ancients* called those *Constitutions dry*, who had little of the *Succus Nutritius* in them to make the Habit of the *Body* plump, as it is in *Lean Persons*, and the *Fat* more *moist Constitutions*.

They esteemed this Natural *Melancholic Acidity* to be the *limous* or *slimy*, *fæculent* Part of the *Blood*, like to the *Lees of Wine*, and so compared it to the Element of *Earth*, for in all *Tartar* there is a great deal of *Earth*, which makes it to subside in

in the *Wine*; and this *black Melancholic Acidity* colours the bottom of the *Blood* most, when it is cool in a *Dish*.

This *Chalybeate Taste* is in all *Blood*, and is Natural to it; part of it constitutes the *splenetic Humour*, when it is mixed with a *Sliminess*, and it is separated by its *Glands*, for the Use of the *Choler*, which is precipitated from the *Blood* by it. I boiled a *fresh Spleen* of a *Hog*, which made a very *slimy Decoction*; I put some *Choler* to it, and they readily mixed together; and I thought it very probable, that the *Sliminess* which makes *Choler* *ropy* was from the *Spleen*: This *vitriolic Acidity* may give a Consistence to the *Blood*: It fixes its *Salts* and *Oyls*, by coagulating with them into a *salso-acid Taste*, and by that disposes the *Serum* for its passage by the *Kidnies*.

I have described the *Tartar Acid* above, but here must consider only the *vitriolic Acidity*, as an effect of too high a Digestion, or Fermentation of the *Humours*, and being in this State, the *Ancients* called it *Atra Bilis*, which is extreamly *hot*, *corroding*, *burning*, *exulcerating*, and being spilt upon the Earth, it ferments it like *Vinegar*, or *Aqua Fortis*, and excites *Bubbles*.

The Ancient Physicians reckon four Species of this *Atra Bilis*, but in reality there is

is but one, which is produced from the *vitriolic Acid* of the *Blood*, by a Fervor or Putrefaction of *Blood*, and the differences of the *Atra Bilis* are either from a Mixture of *Choler* with it, or *Blood*, or *Serum* of the *Blood*, or Corruption of some of our Diet in a *Surfeit*.

1. They attribute one Species of the *Atra Bilis* to the Exuſtion of *Choler*, which, in reality, is nothing but a Mixture of the *splenetic Acidity* too high digested with *sharp Choler*, and this Mixture is either naturally made in the *Gall Bladder*, and *Hepatic Vessels*, and the *Choler* is then observed to look *black* in the *Vesicâ Felleâ* upon Dissection; or else, this *vitriolic Acidity* being ~~present~~ naturally evacuated into the *Stomach* and *Guts*, it there mixes with the *Choler*, and produces *black Vomits*, and *Stools black*, and this appears in the *black Jaundice* by the *black Colour* of the *Skin*, and in some *Fits* of the *Cholic*. *Generatio Atræ Bilis à nimio calore dependet*; *quia humores valde adurere solet*, was the Observation of *Sen-nertus*.

2. They attribute a second Species to *putrid, burnt Blood*, which is only the high digested *vitriol Acid* of the *Blood*, mixed with *putrid Blood*, which is made very *black* by the *Acidity*, and this appears like *Pitch*
or

or *Tar* when it is evacuated from some *Artery* in the *Stomach* in the *black Hypochondriac Vomitings*, or from the *Blood-Vessels* in the *Piles*, or *bloody Stools*. The real *Atra Bilis* is distinguished from this, because it does not grow *thick*, as *Blood* being *cold* does. This Species gives a *Blackness* to the *Urin*, and if the *Blood* be taken from a *Vein*, the *black Fæces* subside to the bottom of the *Dish*, as this may be observed, for which reason I cause such *Blood* to be taken in a *Glass*.

I have met with a remarkable Instance of this kind in a Gentleman, after a long Fit of the *Gout*; he was about Fifty Years Old, and always subject to *Pains*, and *Vomiting ill Humours* from his *Stomach*.

He Vomited a *black Serum* in great quantities: I guess four or five Gallons in a Weeks time; what came by *Stool* was *black*, as *Tar*; his *Blood* let out of the *Veins* of the *Arm* had a great *black Sediment*, like that he Vomited; the *Blood* taken away looked very *Sizie* or *Rheumatic*, and the *black Sediment* filled half the *Glass*, which was full of *Blood*; upon the *Humour* which was Vomited, I made the following Experiments.

The *black Serum* turned *reddish* with *Spirit of Harts-Horn*, and it had the same Colour

Colour from *Salt of Wormwood* mixed with it, whence it is evident, that this *black Serum* was originally *Blood*, the *red* Part being *blackened* by an *Acid*; this would not inspissate by the *Fire*, and therefore was not pure *Serum*, neither did it contain much *Viscidity* in it, for *Oyl of Vitriol* could not coagulate it, neither did it change its Colour, because it was changed *black* before, to which *Acids* change the *Blood*; neither for the same reason did *Alum* coagulate it, or change its Colour, for *putrefied Humours* neither can be inspissated by the *Fire*, or coagulated by *Acids*.

Sublimate alone coagulated it, and changed it into a *greyish* Colour.

Galls did not *blacken* the *Humour* more, but set to the *Fire* it turned *whitish*; and hence it appears, the *vitriolic Acid* of the *Blood* does not strike a *Black* so great as common *Steel vitriols*.

Syrup of Violets mixt with the *black Serum* became *reddish*, as if an *Acid* were mixed with it; and from hence I collect, that some *Acid* was in that *black Humour*. I observed no Smell in that *Humour*, nor the Patient any Taste, as he informed me.

I evacuated this *Humour*, being corrupt, by *small Beer* plentifully drank, by which he Vomited plentifully, being Sick; and I

Purged

Purged him with *Sena* every Day, or gave *Glysters*. When this *black Humour* stopt its Evacuation, he was very Sick, and it caused *Convulsions*.

I could not procure the opening of this Gentleman, when Dead, and so wanted an Information whether this *Humour* camé from the *Arteries* of the *Stomach*, or the *Bileducts*.

3. The Third Species of *Atra Bilis* was attributed, by the *Ancients*, to the *Pituita Salsa*, which, by long Adustion, grew *corrosive*, and this seems only to be a *sharp, fiery Salt* of the *Blood* mixed with the *vitriolic Acidity*, by which it is made a *black Serum* or *Sanies*, such as in *cancerous*, or other *putrid Ulcers*.

4. The Fourth Species of *Atra Bilis* the *Ancient's* make the *Natural Melancholy*, *burnt*, or *putrefied*, or *over-fermented*, and this is that I call most properly the *Atra Bilis*, which, by Mixtures, makes the several Species mentioned: and one more I find Authors have forgot, but I have met with it in my Practice, and that is the *Meats* that corrupt and putrefie in the *Stomachs* of those who have that *Atra Bilis* in their *Bloods*, for this *blackens* the *Vomits* in such Constitutions, and gives also *black Stools*; and this I lately observed in a Person very Healthful, of a good

good Stomach, but black Countenance; at first he Vomited *black*, and *bluish* Humours afterwards, but the *Stools* were all *black*, with *Fainting*, and *cold Sweats*.

I let this Patient *Blood*, but found no *Blackness* in it; so that these *black Serum Stools* were no Corruption of that; neither would *Spirit of Harts-Horn* turn this *Humour reddish*, as it did the *black Humour* which was produced from the *Blood*. I Purged him, but after some few *Stools* at first *black*, none of the last were so; and by Purging off the *Surfeit*, which was made by *stale Beer*, and *hanged Bees*, he recovered.

The Signs of the *vitriolic Humours* are chiefly the Evacuations of the *black Humour* by *Urin*, and *black Spittle* from the *Lungs*, like a *Spider's Web* over it in the *Asthmatic*, and *Splenetic*. The *Saliva* tastes *salso-Acid* in *Catarrhs*, *Ulcers* of the *Mouth* and *Gums*, and *Rottenness* of the *Teeth*. The *Mucus* of the *Larynx* being Coughed up causes *Consumptions*, *Spitting of Blood*, *Catarrhs*, and tastes *sweet*, *vitriolic*, like *Blood* it self.

The *slimy Lympha* of the *Stomach* being *vitriolic*, causes *Vomiting*, *Heart-burning*, or a great *Appetite*, *Hypochondriac Ructus*, and *Pains* of the *Stomach*.

The Nervous Lympha is vitriolic in Melancholies, which causes a Fear and Sadness without a manifest Cause, an implacable Anger, Watchings, or Dreams of black things, or Devils. Their Motion is slow and grave, their Aspect inconstant, sad, and frightful.

The serous and nutritious Lympha is salso-acid in the Hypochondriac, by which it is made unfit for Nourishment, for nothing nourishes but a sweet Humour. The Acidity curdles the Serum, and that stops in the conglobate Glands, and breeds the Scrophulæ, and schirrous Tumours of the Liver and Spleen.

The Urin is pale, and plentiful in Melancholy Constitutions, and frequently full of a Sediment, which sticks to the sides of the Pot.

The pale Urin gives an Acid Dysuria to be tempered by Harts-Horn Spirit, or Steel.

The Blood, the Choler, the Serum, and the Juyces of the Stomach, look black by the Atra Bilis.

The Skin appears dry, hard, cool, and rough. The Colour of the Face is brown, or black, or lead coloured, from the Atra Bilis mixed with the succus Nutritius. The habit of the Body is thin, and lean, and the Hair is black, hard, and curled.

The

The *black Humour* is vomited, and purges downwards ; the *Hæmorrhoids* swell, and break ; there is much *Spitting*, but the *Belly* is *bound* ; the *Urin* is *black, livid, thick*, but sometimes *thin* and *white* ; a *Cremor* swims on the *Urin* with much *farinaceous Sediment*.

The *Pulse* is *slow and hard*.

Melancholy Distempers preceed ; as *Quartans*, *Swelling of the Spleen*, *Leprosie*, *Varices of the Legs*, *Hæmorrhoids*, great *Voracity*, and little *Thirst*, but *Acid Ructus*.

Their Parents were *Melancholy*. The Age betwixt Forty and Sixty, and a *vitriolic, natural Temper of Blood and Spirits*, and the *Autumn* dispose to *Melancholy*.

The external evident Causes of the *Atra Bilis*, are,

1. A high fermenting Diet ; as *old Cheese*.

Flesh-Meats which are strong and blackish ; as *Venison*, *Hare*, *Swines*, *Beef*, which abound with a *black Blood* ; Birds feeding in Fens ; as *Geese*, *Ducks*, *Woodcock*, *Snipes*, *Swans*, &c. by Drinking *Fen*, *Vitriolic Waters*, have both *black Blood* and *Flesh* ; Fish in Ponds, and *Sea-Fish*, which are called the *Cetacei*, *salted* or *dryed* in the *Smoak*, have a *salso-acid Taste*, and breed *Melancholy* : The Drinking of such *boggy, vitriolic Waters* dispose to *melancholical Humours*.

Strong Wines or Drinks, fryed Meats, and those dryed in the Smoke, *Acrids* and *Aromatics* in our Diet, over-ferment the *Blood*; as *Fasting* does, and all produce an *Atra Bilis*.

The salt Sea Air fills the *Blood*, with the Sulphur fumes from it, and the Fens with vitriolic, sulphureous *Exhalations*; for vitriolic, blue *Concretions* swim on such *Waters*.

2. The Melancholic *Evacuations* stopt by the Suppression of the *Hæmorrhoids*, or the hepatic Flux which is from the *Arteries* of the *Mesentery*, or the *Varices* vanishing, or the stoppage of *Sweat*, in a sedentary Life.

3. By too much *Evacuation* of the *Spirits*, by *Watchings*, *Cares*, *Studies*, *Solicitude*, *Anger*, *Exercise*, the Motions of *Humours* are quickned, and the *Digestions* heightened, and the *Oyly Parts* of the *Humours* evaporated, and the *Vitriolic* remain, and prevail over all.

The inward Causes of the vitriolic *Acidity*.

1. A black, vitriolic *Humour* in hot and dry *Constitutions*, which makes the *Blood* black, and the Colour of the *Face* so too, and this is increased by being in a hot Region, or hot time of the Year, by hot *Diet*, or violent *Passions*, &c.

2. The

2. The Evaporation of the *oyly Spirits* ;
so *Vinegar* is prepared, when by the Heat
of the *Sun*, or *Fire*, the *Spirits* are evapo-
rated.

There is in the *Spirit of Wine* some *Acidity*, by which *Brandy* curdles *Milk* ; and
that there is such an *Acidity* in *Animal Spirits* is probable, for the *Animal Spirits*, like
that of *Wine*, are very inflammable, or a thin
lucid Flame ; and it appears, that some *Acid*
makes *Oyls* more inflammable ; for *Oyl* of
Turpentine, and fresh *Aqua Fortis*, upon their
Mixture, turn into a *Flame*. All the *Spi-*
rits of *fermented Liquors* are *acid*, *oleous*,
and are very *pungent* on the *Tongue* by their
Acid ; but if the *Oyl* be separated, they
taste only *sowre*, or *sharp*, from their *Tartar*.
After the same manner the *Spirits* of *Ani-*
mals are compounded of a *fectid Oyl*, and
vitriolic Acid ; and the *spirituous* Parts of
all *fermented Liquors* have the same Com-
position ; and these being the most *volatile*
Parts, must needs compose the *Spirits* of
Animals, which are produced also by the
Fermentation in the *Stomach*, and after are
prepared by a *long Digestion*, or *Circulation*
in the *Blood* ; therefore, if the *Oyly Part*
be evaporated by *violent Passions*, or *Dis-*
eases, the *Spirits* remain *vitriolic*, or like
Aqua Fortis in the *Melancholy* and *Hysteric*

Persons ; and this *Acidity* of the *Spirits* infects the *Blood*.

3. There is another way of Preparing *Vinegars* besides the *Evaporation* of the *Spirits* mentioned, which is, by addition of a new *Ferment* to *Wines* ; and by both these ways the *Blood* becomes *vitriolic*. I have mentioned the *Evaporation* of its *Oyly Spirits* ; and now will describe the *Ferments* which *sowre* it.

The *Viscera* filled with *putrid Humours* ; as in the *Phthisis*, *old Jaundices*, wherein the *Lungs* and *Liver* are ulcerated, send a *putrid Ferment* into the *Blood*, and these ferment the *Blood* into an *acetous Temper*.

So the *Natural Humours* long detained, as the *seminal Matter*, which is of a fermentative *Nature*, or by the *Hæmorrhoids* or *Menses* retained, the *Blood* suffers an *Ebullition*, and it is not unusual, that any *Animal Humour* corrupted should become a *Ferment*, as appears in the *Saliva* of a *Mad Dog* ; and in all contagious Diseases ; as the *Itch*, *Pox*, and *malignant Fevers*, wherein the corrupt *Humours* ferment those which they infect into the same preternatural State.

Burning Fevers are commonly the occasion of the *Atra Bilis*, for they make the *Blood* *black* and *thick* ; and *Pestilential Fevers* have the same *black Humours* both in the *Skin*,

Skin, and sometimes evacuate it by Stools, or Vomiting, or Urin.

Galen affirms, That all who evacuate black Humours in the *Plague* die; but those who do not, have the *black mortified Blood* in the *Skin*, where it spots it; and he imputes this *Blackness* to the over-heating or *Adustion* of the *Blood*; and he imputes all *melancholy Cases* to the same extraordinary *Adustion* of the *Blood*, *πίνονται αἱ μελανχολικαὶ νεῖραι εἰς συγκατούσας αἵματος*.

This Atra Bilis happens in Hæmorrhagies, where the Fibers of the Blood are putrefied, and black in the bottom of the Chirurgeon's Dish.

The Ancient Physicians esteemed the *Spleen* to be the place where the *Atra Bilis* is bred, which, in *old* and *hot Animals*, appears very *black*; but in *young ones*, or those of a *cooler Constitution*, more *reddish*; for the *vitriolic Acid* is more strongly digested, and becomes more *sharp*, and *black* more in the *old* and *hot Animals*, than in the contrary. They thought the *Spleen* attracted such a *Humour* as the *Lees of Wine*, or the *Amurca of Oyl*; and this is the *vitriolic Acidity* mentioned.

4. The Obstruction of the Spleen, when
schirrous or inflamed, obliges the vitriolic
Humour to pass through the Arteries into
the

the *Stomach*, and there it corrupts its *Fer-
ment*, and changes all the *Mass* of *Meat*
towards an *Acidity*, like too much *sowre
Leaven* in our *Bread*; so that *Hysterical*
Personis vomit a great deal of *acid Humours*,
and so do the *Hypochondriacal*, and both
eat too much, and have their *Bodies* too
much bound. Or else the *vitriolic Aci-
dity* passes through the *hepatic Artery* into
the *Bile Vessels*, and there, by fermenting
with it, it produces those *Fluxes of Choler*
which happen in the *Cholera*, or *Cholics*,
or *Diarrhaea's*, and the various *Colours* of
them.

The Cure of the *Muriatic Acidity* of the
Chyle, and the *Vitriolic* and *Armoniacal* of
the *Blood* require,

1. The *Evacuation* of *Acidities* from the
Stomach by *Vomits*, in *hysteric* and *hypochon-
driac* Cases, and the frequent gentle *Evacuation*
by *Stools*, and keeping the *Body* open by
Lenitives of Sena.

2. All the evident Causes mentioned must
be avoided, especially a *tartareous* or *muri-
atic* *Diet*. Moderate warm things agree well
with them, but no very hot ones, nor no
strong Purgers. The *Diet* must *moisten*, or
be *thin* and *nourishing*, as well as a little
warm. All *Passions*, *Studies* must be a-
voided.

3. The

3. The *muriatic* and *vitriolic Acidities* are naturally evacuated by *Urin* and *Sweat*, and therefore we use *Diuretics* and *Sudorifics*.

4. The *Secretion* of the *vitriolic Humour* through the *Spleen*, must be promoted by *Steel Medicines*, which resemble its *vitriol Taste*, and the abundant *Acidity* in the *Chyle* and *Blood* precipitated, as in the Cure of the *Tartar Acerbity*.

5. All *extraneous Ferments* are to be avoided, and *Humours* suppressed evacuated.

6. This *vitriolic Acidity* at last fixes the *Blood*, and makes it congeal, and then the *Digestives* mentioned in the Cure of a *low Fermentation* are necessary, which, by ex-agitating the *Oyly Parts* of the *Chyle* and *Blood*, give them a *Predominancy* over the *Acidity*.

7. The *high Fermentation* of *Humours* must be checked by the *Diet* and *Medicines* prescribed in the Cure of *too high a Fermentation of Humours*.

When the *vitriolic Acidity* chiefly troubles and infects the *Blood*, it may be esteemed the *cold Scurvy*; but when the *Nerves* are also affected by the *vitriolic Acidity* it produces the *Hypochondriac Affections*, and the *Spleen* is obstructed also. It coagulates in the *Kidnies* with some *terrene Matter*, like *Lime*.

Lime-Stone, and there produces all the *calculus Concretions*. The *Corrosiveness* of *Humours* depends much on too high a state of the *vitriolic Acidity*; and the *splenetic Flatulencies* on a violent *Agitation* or *Expansion* of *Spirits*.

First, Of the vitriolic, oleous Scurvy.

In this *Scurvy*, the *vitriolic Acidity* prevails over the *oily Spirits*, and for that reason it produces many of the *Symptoms* attending a *low Fermentation* of *Blood*; for the *Blood* becomes *ropy, mucilaginous, and sharply Acid*, by *too high a Fermentation* of a *depauperated chylous Blood*, naturally more *Acid* than *Oily*; the *Urin* is *pale*, and a *salt Cremor* swims on it; there are no *Spots* in the *Skin*, but the *Spirits* are *weak, unfit for Motion*, whence the *Lassitude* proceeds, or *Fainting, Palpitation of the Heart, and dull Pains, and Windiness, and the Asthma, a Streightness of the Breast, a wandering Fever, with sudden Changes of Heat and Cold*; these are the ordinary *Symptoms* attending the *cold Scurvy*, which in respect of the *hot, oily, vitriolic State of Blood* in the *hot Scurvy* mentioned above, it may be called the *cold Scurvy*, because the *Blood* is more *poor, and less spirituous*; but this is also produced by an *over-fermentation* of such kind of

of Blood; and the cold Symptoms depend on the Greatness of the vitriolic Acidity, which coagulates the Blood, and fixes all the volatile Salts and Oyls, and that is the reason it must be cured as in the tartareous Acidity.

I. The Acid must be evacuated by Aloetic Purgers, *Fil. ex Ammoniac. Ruffi, Stomach*; or by Sennates, or those of black Hellebore.

II. The Fervour of Humours may be diluted by the watery Liquors; as *Whey, Stilled Milks, Asses Milk, Steel Waters, Wine and Water*. See the Cure of too high a Fermentation.

III. All Acid Liquors must be avoided; as *Wines, Cyder, Beer that is stale*; and all the evident Causes producing Acidities.

IV. The Scorbutic Acidity must be evacuated by *Urin*, and the Digestion of Humours raised.

1. By *Acrid Plants*; as *Scurvy-Grass, Horse-Radish, Water-Cresses, Rocket, Lady-Smock, Mustard-Seed*.
2. By *volatile and fixed Salts*.
3. By *Turpentine Plants*; as *Pine Tops, and Juniper-Berries in Drink, Gilead Balsam*.
4. By *bitters Acrid of the Wormwood Class*; as *Wormwood Wine*.

5. By

5. By the acrid Aromatics ; as *Angelica Roots, Galanga, Zedoary, Contrayerva, Cardamoms, Orange Peels, Winter-bark.*
6. By the *Laurel, bitter Acrids* ; as the *Bark and Seeds of Ash, Decoction of Guajacum, and the Use of the Cortex.*
7. By the *fætid, lamium Bitters* ; as *Chamædrys, Marrubium, Wood-Sage, ground Ivy, and ground Pine.*
8. By the *leguminous Bitters* ; as *Broom.*
9. By *nauseous Bitters* ; as *Gentian, Centaury, Buck-Bean.*
10. By the *corrosive Acrids* ; as *Aaron, lesser Celandine, Arsesmart, Piperitis.*
11. *Chalybeates*, which are of least heat ; as *Vitriol Martis made into Pills with Gum Tragacanth, or else dissolved in distilled Milks.*

Secondly, Of the Hypochondriac Affection.

This seems to differ from the *cold Scurvy*, by being a higher degree of it. When the *vitriolic Acidity* has so far coagulated the *Blood*, as to produce many *Obstructions* in the *Viscera*, especially in the *Spleen*, whence the abundant *vitriolic Humour* is thrown upon the *Stomach*, where it produces *Corrugations, and Pains, and Inflations, a great Appetite, and continual Windiness, and Vomiting* ; after the *Meat* the *Face is red, and*

and the *Hands burn*, the *Countenance is black*,
and the *Habit of the Body lean*.

When the *Vitriolic Humour* affects the *Brain*, it produces *Vertigo's*, *various Fancies*, *Head-Aches*, *Convulsions*, *Palsies*, *Alterations* of the *Pulse*, *Oppressions*, *Trembling*, and *Palpitation* of the *Heart*, *Constriction* of the *Breast*, a *Sense of Formication*, and *Stupor* in the *extream Parts*.

The *Urin* is various, commonly *turbid*, and *thick*, or *blackish*, with *sandy*, *red Sediment*.

The *Belly* is *bound*, and the *Stools* frequently *black*.

A *thin Urin* preceeds some *Fits*.

I am not singular in my Opinion, that the *Acid of melancholic Blood* is *Vitriolic*; but can quote a remarkable part of *Sennertus*, where he says, *Atram Bilem ipsamq; melancholiam vitriolatæ naturæ participem, aut certe ei cognatam esse, & ferrugenei quid sapere, nemo facile negaverit.*

This *Affection* happens about the *Thirtieth Year* of our *Ages*, and then the *Blood* seems to be at its *highest Digestion*; but by Accidents acquiring a great *Ebullition*, it loses its *Spirits*.

Those Constitutions in whom much *sourè Ructus* and *phlegmatic Vomits* are observed, bear the *hotter Medicines*; and those who have

have *choleric Vomits* burning in the *Hypo-chondria*, and *Thirst*, and *Fury* in the *Spirits*, require the *coolest Medicines*.

Sweet things ferment, and are offensive to the *Hypochondriac* and *Hysteric*, which was anciently observed.

Τοῖς Σπλαννυοῖς τὰ μὲν θριμέα καὶ τὰ πικρὰ φέλιμα,
τὰ δὲ γλυκά βλαβερά.

The Cure requires,

I The avoiding of a *Tartareous Diet*, and that which is *Muriatic*, and *Vinous*; to avoid *Passions*, *Studies*, too much *Solicitude*, and *Labour*, and to help all *Evacuations* stopt, especially that of the *Hæmorrhoids*.

II. The *Saburra pituitous*, *tartareous*, or *bilious*, must be evacuated often by *Vomits*, and the *Body* kept open by *Aloetics*, and *Sennate Medicines*, or *Wines*, and *Clysters*, or *Purging Waters*, and a *Pill of Ammoniacum* once a Week.

III. Frequent *Bleeding* small quantities checks the *preternatural Fermentation*, and keeps the *Humours* from *Stagnation* and *Obstructions*, especially the opening the *Hæmorrhoids*, procuring the *Menses*, and giving way to the *varicous Swellings* in the *Legs*, without binding them. *Bleeding* at the *Nose* does good.

IV. In the *cold Melancholy* we use *hot Digestives*; as,

1. *Acrids.*
2. *Causticks.*
3. *Bitters ; Elixir Antiscorbuticum, Tinct. Sacra.*
4. *The Salts volatile ; as Sal volatile oleosum, Sal Absynthii, Cochleariæ, and testaceous Medicines.*
5. *The Aromatics, all which are mentioned in the cold Scurvy.*
6. *The Chalybeates, which are most Sulphureous ; as Chalybs cum Sulph. præp. and the Filings.*

V. In the hotter Constitutions all strong Drinks and hot Medicines are offensive, and these require,

1. *Watery Liquors and Medicines, according to the Observation ; Melancholici non diutius curantur, quam humectantur ; and for this end they use Whey, and Syrup of Violets in all black Humours, and cool Clysters to evacuate it. We use distilled Milks, Mineral Waters, &c. Wine and Water to cool and moisten.*
2. *Cichoraceous Bitters ; as Decoët. of Dandelion, Conserve of Cichory Flowers and Roots, Decoët. of Scorzonera.*
3. *The mucilaginous Bugloss, Borage Leaves, and Flowers, Syr. Borraginis, de Pomis citri.*

4. Sub-

4. Sub-acid; as *Juyce of Limons, Citrons, Syr. de Pomis*, which Syrups are good in *Whey*, and *Spirit of Alum* to fix *furious Spirits*; but *Vinegar* is injurious to the *Melancholic*.
5. The *Fern Styptics*; as *Polypody, Spleenwort, Ceterach*, these stop the *Fermentation of Humours*. Boil them in *Whey*, or *small Ale*, with *Antiscorbutics*.

VI. The *vitious Acidity* of the *Spirits* must be corrected by,

1. *Aromatic Cephalics*; as *Penny-Royal, Thyme, Sage, Bettony, Lavender*, the *Spirit of Lavender*.
2. By *Cardiac, Odoriferous Medicines* of *Ambergrease*.

Lozenges made of *Species of Diamber, or Lætificans Galeni* with *Oyl of Cinnamom*.

*Cubeb*s candied with *Sugar* are good for the *Vertiginous*.

Some *Tincture of Aromatics* with *Ambergrease*.

3. *Testaceous Medicines, and Powders of Antimony, Steel, Cinnabar Mercury, Lapis Lazuli* with *Purgers*.
4. *Narcotics. Diascordium, and Confect. Alchermes* with *Laudanum*.

Foment

Fomentations to the *Hypochondria*, with proper Oyntments; for *Schirrus* of the *Viscera*, Baths of warm Water are much commended; an *Issue* betwixt the first and second *Vertebra* of the Neck or Shoulders.

The best Diet for *Hypochondriac Affection* is, fresh *Flesh-Meats*, and small *Ale*, with *Pine-tops*, *Dock-Roots*, and other *Antiscorbutics*.

VII. *Anti-splenetics*, which open the Obstructions of the Spleen; for the Secretion of the *vitriolic* and *viscid* *Humours* from the *Blood* are absolutely necessary; for the *Hypochondriac Winds* are to be cured by vomiting up the corrupt, sower *Ferments*, by diverting the *splenic* *Humour* from the *Stomach*, and keeping the *Body* open by *Aloetics*, *Tinct. Sacra*, *Pil. Ammoniacum*.

We use *hot Medicines* in *Hypochondriac Cases*, because of the Obstructions by *viscid Humours*, and the evaporated *Spirits* must be supplyed by *spirituous Medicines*; and in all long *chronical Diseases* a decay happens in our *Digestions*, for want of *Spirits*, and a crude *Saburra* of *Humours* is produced, though the original *Distemper* proceeded from a *hot Cause*, that is an over-Fermentation of *Blood*.

Thirdly, Of the Concretion of Stones or Sand in the Humours of an Animal.

The *Urin* contains three parts.

1. The *viscid Particles* of the *Succus Nutritius*, which make its *Contents*.

2. The *salso-acid* and *oyly Particles*, which give the *salso-acid* or *bitterish Taste* to the *Sweat* and *Urin*.

3. The *thin, serous, watery Part*, which carries all the other Parts and dilutes them.

When the *oyly Part* of the *Urin*, which I suppose to be the *Choler*, is too high digested, it looks *red*, and *flame coloured*, or *deep yellow*. The *red Part* of the *Blood* seems, in some *hot Bloods*, to colour the *Sediment red*.

When the *vitriolic Acid* abounds, it joyns its self with such *Earthy Particles* as are observed in all *Liquors*, (for *Lime-Stone Particles* may be observed in all *Waters*, but most plentifully in the *Purging ones*) and that, with these *stoney Particles*, coagulates into *Sand* or *Stones*.

The same *vitriolic Acid* coagulates the *Lympha's* into *tophaceous* or *cretaceous Stones* in the *Joynts*, and *Limbs*, and *Lungs*: Not only the *milk Lympha's*, but the *serous*, are subject to this Coagulation, as appears by the *Stones* in their several *Glands*.

If

If the *Salts* of the *Blood* were only coagulated by this *vitriolic Acidity*, they would not appear in any firm *tenaceous Consistence* in the *Stone*; but all *Stones* would be friable, like *Tartar*, therefore this *Acid* coagulates some *viscid Parts* with the *saline*. If there were no *Earthy Parts*, then the *Stones* would appear *gummy*, or *tenaceous* only, and not *solid*.

Stones are generally bred like *Tartar*, which consists of the *Acid Part* of the *Wine* joyned to the *Earthy*, and mixed with the *slimy Fæces* into a *hard, Stony Substance*: so from the *Tartar of Vegetables*, coagulate with *stony Particles*, the *Stones* and *hard Cases* of their *Fruits* and *Seeds* are produced.

The evident Causes of the *Stone*, are,

1. A *hot, acrid and aromatic Diet*, and a *muriatic Diet*, which over-ferment the *Blood*, and supply a *salso-acid Matter* for the *Stone*, or a *viscid*, as all Diet of that kind.
2. *Strong Diuretics* force the *salso-Acid* to the *Kidnies* too much, if used too oft, or mixed with our *Diet*.

3. Too much *Venery, Baths, Passion, Flannel*, or *hot Cloaths* on the *Back*, or *soft Beds*, lying on the *Back*, *Exercise after Meat*, much *Riding*; all these weaken the *Kidnies*, by *Heating* them, or forceing the *calculous salso-Acid* thither.

The inward Causes, are,

1. A *rancid, viscous Chyle* from *hard Drinking strong Liquors.*
2. A *Saltiness of Blood, and a biliary Temper.*
3. A *vitriolic Acidity of the Spleen.*
4. *Narrow Pores, or Canals in the Kidneys.*
5. Such a *Conformation of Pores, or Temper of Humours*, may be derived from the Parents, and Children have *Stones* bred in them before they are Born, for the same reason; and because they retain their *Urin* so long in their *Urinary Vessels*, whilst *Embryo's.*

The Stone is often bred from the *Nurses Milk.*

The Cure of the Stone consists,

I. In evacuating and correcting the *rancid Chyle*, the *Saltiness and Viscidity of Blood*, and the *vitriolic Acidity*, as is above-directed, and evacuating the *calculous Serum* by *Diuretics.*

II. In making the *Passages slippery,*

1. By *Vomiting*, with *Posset-Drink*, in which *Althea Roots* are boiled in the beginning of *Fits.*
2. By a *mucilaginous Glycer*, and *Bolus of Cassia.*

3. By

3. By *Emollients, Baths, or Fomentations* ; as ~~Scorzonera~~ ^{Oylous} *Mallows and Pellitory fryed with Butter, and applyed. By Emollient Plasters and Oyntments, Empl. Melilot.*
4. *Oyly Medicines* ; as *Oyl of Sweet Almonds, and Sperma Ceti* ; an *Oyly Glyster, Oyly Emulsions, Butter and Sugar, or Milk half churned.*
5. *Watery Liquors force it* ; as *distilled Waters with Diuretics, Whey, Milk and Water, Asses Milk, Mead, Posset-Drink with Chamomile Flowers, Pellitory and Mallows, Chalybeate Waters, and Water distilled from Birch Fuyce and Daucus Seeds.*
6. *Vomits, Sneezing, Leaping, Standing on the Head, and Cupping-Glasses, Riding, Stroaking the Loins and Belly, or Cupping-Glasses, help to remove the Stone ; and Bleeding in the Arm or Foot, and Purging, to which Laudanum must be added.*
7. *Narcotics allay the Pain.*
8. *The Glysters may be made deterging ; as of Turpentine, Urin, and Purgers ; or Carminatives and Diuretics, with Soap and Oyls.*

The Preservation from the *Concretions of Stones* requires,

1. *Vomiting and Cholagogues, Purging Waters, or Purging Antiscorbutic Diet Drinks; or Purging once a Month.*

2. The *salso-acid* or *vitriolic Blood* is corrected by *Chalybeate or Bath Waters, Asses Milk* drank, distilled *Milk, Oat Mault.*

Whey with Antiscorbutics, Water drinking, a Toast and Water, and Nutmeg, every Morning fasting; or Antiscorbutic, cooling Juyces, Emulsions, Strawberry Water.

3. The *vitriolic Acid* requires temperate *Chalybeates, Testaceous, Salts volatile and fixed, Tinct. Antimonii, Tartari.*

4. The Use of *Vulneraries* which deterge; as *Veronica, Strawberry Roots, Virga Aurea, Hypericon, Millefoyl, ground Ivy, Pine Tops, Ceterach* boiled in *Beer or Water*, to which *Honey and White-Wine* must be added, and *Lucatellus's Balsam* taken at Night, or *Turpentine Pills* with *Bole cum Mastich*, or *Rhubarb*. A Plate of *Lead* must be worn on the *Back*.

The *Stone* in the *Bladder* must be cured,

1. By *Diuretics*, if the *Stone* be small, and can pass; as by the *Acrids or Caustics*, as *Water distilled from Caicus, or the Powder of Millepedes 5i.*

2. By *Lixiviums.*

3. By *Cutting*: if the *Stone* cannot pass the *chalybeate Waters* do Injury in such a *case,*

case, and the palliative Cure requires the Evacuating the *calculous Matter* which increases it ; the allaying the *Pain* and *Strangury* by *gum* and *mucilaginous Medicines* ; as *Comfrey Roots*, *Milk* and *Water*, *Emulsions*, and *Asses Milk*, and *Narcotics*, and *Vulneraries*.

Fourthly, Of the *Hypochondriac Flatulencies* arising from too high a *Fermentation of Humours*.

Windiness is an extraordinary Complaint in all *Hypochondriacal Cases*, which arises either *Symptomatically*, from the *Obstruction*, *Schirrus*, or *Inflammations* and *Imposthumations* of some of the *Viscera* ; or else it depends on some *viscid, sower Phlegm* lodged in the *Stomach* ; or some *putrid Humour* which ferments the new *Mass of Meat* into continual *Eruptions*, which taste either *hot, burning, broyling, fat, fætid*, or very *sharp, sower*, according as the *Ferment* of the *Stomach* is tinctured, either with too much *bitter Choler*, *salt Serum*, or the *vitriolic Spleen Juyce*, which is also *viscid*, and thrown upon the *Stomach*.

The Cure of this *Flatuosity* requires the Evacuation of the *flatulent Mass*, and the *vitiated Ferment*, and afterwards the *Humour* that tinctures it must be carried off

M 4 by

by those *Glands*, which are made for its *Secretion*. We must, lastly, use those *cooling Alteratives* which are prescribed in the over-fermentation of *Humours*. This is the *Flatulency* properly of the *Chyle* over-fermented; but the second Species of *hot Flatulencies* is from too great a Rarefaction or Expansion of the *Spirits* in the *Mass of Blood*; and such a Fret of the *Spirits* we observe in all *vinous Liquors*, when they are kept too *hot*; for then those Liquors are very *windy*, and taste *hot*, and *froth* much. Such is the Temper of the *natural Spirits* of the *Blood*, when it is apt to *febrile Effervesences* upon very slight occasions, in *Hysterical*, *Hypochondriacal*, or *Scorbutic* Persons, who are sensible of sudden Alterations of *Heat* and *Chillness*; and I have observed in a *Scorbutic* person, a sudden *Tumour* rising in the *Flesh*, which would immediately subside again. This *flatulent Effervescence* of *Spirits* must be cured as an *Ephemera*, removing the Occasion, and tempering the *Humours* by *Acids*, *Acerbs*, *Mucilages*, and *Opiates*, as will hereafter be described, and the Disposition to this *Flatulency* will be removed by a long use of the *Cortex*, and those *cooling Alteratives* which depress too high a *Fermentation*.

There

There is a third kind of *hot Flatulency*, which happens in the *Nerves*, who receive their *flatulent Spirits* from the *Blood*.

In the *Nerves*, the *Spirits* being rarefied or expanded, produce the *Asthma*, of which I shall particularly treat; or the *Tympany*, *Cramps*, and *running Pains*.

Poysons tumifie the *Body*, by rarefying the *Spirits*; and some who die of *Convulsions* are prodigiously *swell'd*; those who die of the *Iliac-Passion* have their *Bellies* much *swelled*.

This *Nervine Flatulency* requires the same Method for Curing the *Inflammation* of the *Spirits*, as in an *Ephemera*; and also the same Method for preventing any new fit of *Windiness* in the *Nerves*, as is mentioned above; for the *Natural* and *Animal Spirits* differ not in Nature; for what is in the *Blood* now, after a small time is carried through the *Nerves*, and so returns into the *Blood* again.

The *Ferment* producing *hot Flatulencies*, was esteemed, by the Ancient Writers, to be, *Humores adustos, atrabilarios, acidos in-*
star fermenti sese habentes, as *Sennertus* de-
scribes it; and of this Opinion was *Diocles*, *Carystius*; for which he quotes *Galen's* Third Book, *de Locis affectis*.

The

The *crude Flatulencies* are produced by a *weak Heat*, as they called it; that is, a *low, crude Ferment*, which does not thoroughly ferment the *Meat*, and that is either *serous*, or a *viscid Slime* in the *Stomach*, or *tartareous Acidities*; but in all *hot Flatulencies*, the *Ferment* producing the *Flatulencies* is either *bilious, saline, vitriolic, or putrid*. Some *Flatulencies* are imputed to the *Contrarieties of Humours*; as that which is produced by *fixt Salt, or Alcali, and acid Spirits*, such may be observed in the *Guts*, betwixt *acid Meats*, and *acrid Choler*, which produce the *nitrous Flatulency*.

These following *Flatulencies* are not produced by a *weak Heat* or *Fermentation*, but by *adust Humours*; that is, an *over-fermentation*, as the *Flatus* in a *hot Cholic* are from *Inflammation of the Guts*.

The *Tympany* depends on a *hot Flatulency* rather than on a *cold, or low Fermentation*.

The *Hypochondriac Affection* is accompanied with so much *Flatulency*, that it is called, *παθος φυσιδες*, and depends on too high a *Fermentation*, and the *Blood* is too *thick, and hot, and the Spirits inflamed*.

These are *Flatulencies* depending on the *hot Ferments* mentioned; and these produce it from any kind of *Meat* taken; but there is a different *Flatulency* arising from the *hot Spirits*

Spirits lodged in some kind of *Meats*; as in *Poysons*, *Garlic*, and many *oyly Fruits*, and *fryed Meats*, and all other *Diet* which turns *nidorus* on the *Stomach*.

Any *Animal Humour* kept to putrefie, as the *Serum* of the *Blood* long bottled, becomes *flatulent*; *Putrefaction*, in all *Tumours* ripened, *swells* them; by which it appears, that all *Windiness* is an effect of some *preternatural Ferment*, either too *strong* or *weak*, or *mixt* with other *Humours*, by which it *preternaturally ferments* them; for when the *stomachic Ferment* does its *Office* well, no *Ructus* are produced; and from hence it appears, that the *windy Fumes* or *Vapours* are nothing but the *natural Spirits* of our *Humours* ill fermented; and these coming into the *Nerves*, produce what we describe by *Vapours* in the *hypochondriac* and *hysteric Cases*; for all sorts of *Convulsions*, as *Epilepsies*, *hysteric* and *hypochondriac Fits*, *Vertigo*, the *Palpitation* of the *Heart*, *Singultus*, *Chorea Sancti Viti*, depend on the *highest* and *hottest Flatulency* of our *Spirits*; but the *Tympanites*, *Asthma*, *Incubus*, are different from the former, as much as a gradual *Elasticity* or *Expansion* of the *gentle Air* does from a *violent Blast* or *Storm*. I will here annex a strange Account of a *Priapismus*, from *Windiness*, first premising, that it is

no effect of a *Venereal Distemper*, nor a *Melancholic Fancy*. The Person is of a middle Age, and fat habit of Body, who every Night has a *Priapism* in his Sleep, *cum emis-
sione Seminis*; it never seizes him but in his Sleep at Night, and never in the Day-time, though he sleep then. This *painful Erection* he imputes wholly to *Windiness*, and thus he describes it; I often plainly and loudly hear the *Wind* to make a Noise in that part, like that of the *Guts*, especially in a Morning; for, constantly, as soon as I wake, the *Wind* begins to return from that part, and in going back is very audible for near a quarter of an hour, till the Part is fully fall'n; and sometime when it is returning I find a *Pain*, and Fulness ensues in my Breast; and, at the same time, I have constantly a Noise and Piping in my Ears. He bled in the *Penis* without any Benefit; and drank *chalybeate Waters* without any great Success, and used *Steel* and *Nervines*, *Fomentations* and *Unguents*.

The Medicines against a *Priapism*, ^{from} ~~above~~ the hot *Flatulencies*, are *nitrous Medicines*, *Spirit of Niter*, *Emulsions*, *Acids*, *Narcotics* externally and internally, *Bath Waters*, *Chalybeate Waters*. The hot *Carminatives* are *Camphire*, *Rhei*, *Cummin Seeds*, *Species Diambræ*, *Agnus Castus Seed*, and *Hemp Seed*. *Glysters* do more than *Purges*. The

The *Indications* in the Cure of the *hot, fætid Flatulencies*, are,

I. To evacuate by *Vomits*, or gentle *Purges*, or *Glysters*, the *nidorous, Acid, bitter Salt*, or *fætid Mass* from the *Stomach*, and by frequent *Purges* to divert those *Humours* from thence, which give an ill *Tincture* to the *Ferment* of the *Stomach*. *Cholagogues* and all the *specific Purgers* are here proper, *Purging Waters* especially.

II. To correct the *cholerick, salt, vitriolic or putrefactive State* of the *Blood*, which infects the *stomachic Ferment*; and for this we must use those *Alteratives* which are prescribed for each *Cacochymia*.

III. All the *hot Flatulencies* of *Humours* must be depressed, by fixing the *fermenting Spirits*.

I. By *Acids*, *Sp. Nitri dulcis, Salis dulcis, Succi Citri, Ribium, Decoct. Tamarind. Elixir Vitrioli, Elixir Proprietat. cum Acido, Crem. Tartari, Spirit of Vinegar.*
Rx Aq. Menth. Simp. Fl. Chamomeli, Fæniculi. an. ʒiv. Sp. Carui ʒiss. Sp. Aceti ʒi. ocul. Canc. vel Antimonii Diaph. ʒi. Syr. Corticis Aurant. ʒi. Laud. gr. iii.

Gas. Sulphuris, Cochi cum Aq. Paratæ Haustu.

2. By

2. By Salso-Acids.

Acids mixt with Volatiles, Mixtura Simplex.

Sp. Carminans Secretus ex Tartaro & Nitro.

Sal Prunellæ, Sal Armoniac, and all nitrous Medicines; Sal Succini.

3. By watery Liquors; as *Aq. Parata*, distilled *Waters*, drinking *Wine*, and two parts of *Water*, or *Wood-Drinks*, *Spaw-Waters*, *Milk* and *Water* in *salt Cacochymia's*, the *Bath Waters* inwardly, but outwardly they increase all *hot Flatulencies*. *Cold Water* is more useful, or *Vinegar* and *Water*, dipping or immersion in *cold Water*, *Solutions* of *Niter*, and *Sal Armoniac*.

The *cool Juyces* of *Plants*; as *Sempervivum*, *Purslain*, *Brook-Lime*, *Plantain*, and *Raw Fruits*, cool such *flatulent Bloods*.

But since all the *hot Flatulencies* procure a decay of *Spirits*, the *Fermentation* becomes at length depressed; and as in all *chronical Diseases* a *Saburra* is produced, which requires *Digestives* of the cooler kind to renew the *Fermentation* of the *Blood*, and depurate it from some *secretitious Humour* suppressed. As,

1. The *cool Chalybeates*; as *Vitriolum Martis*, *Chalybs Willisianus* in *Milk Waters*.

2. The

2. The ~~wild~~ aromatic Carminatives, and gentler Bitters; as *Chamomile Flowers*, *Zedoary*, *Angelica*, *Orange Peels*.

3. The Use of a moderate Diet, in which there is little *Slime*, or *acrid Parts*, especially *Liquors* in which no *spirituous Parts* are, and which are not apt to ferment.

The *Nervine*, hot *Flatulencies* cannot be composed without *Opiates*, which weaken the *Elasticity* of the *Spirits*. All hot *Nervines*, as *Castor*, the hot *Gums*, *Assa*, *Galbanum*, and all *Amber Medicines*, increase the hot *Flatulencies*, and also all *Chymical Oyls*, *Balsams*, and all *Salts*, whether *volatile* or *fixed*, and also all hot Applications outwardly; but the cool Medicines mentioned above, which cool and temper the *sanguineous Spirits*, have the same effect upon the *Animal*, or *Succus Nervosus*.

It often happens that there is a cool *Flatulency* depending on a weak *Digestion* in the *Stomach*, when a hot *Flatulency* infects the *Blood* and *Nerves*, as in the *Asthma*, *Tympany*, *Hypochondriac* and *Hysteric Cases*, and then the Medicines must be mixed, and of a middle temper, neither too hot, nor too cold.

R. Aq. Menth. Fenicul. an 3ij. Sp. Carminativ. Sylvii 3iss. Sp. Nitri gr. xx. Ol. Juniperi gr. vi. Syr. Cort. Aurant. 3iss. Laud. gr. iiij. Capiat cochlearia.

Fifthly,

Fifthly, Of the Corrosiveness of the Humours.

When Humours are corrosive they produce Pains, Burning, Ulcers, Rottenness of the Bones and Teeth, and Fluxes of the Belly, or Hæmorrhagies, and a thin, fætid Sanies in ulcerated Parts.

1. A corrosive Acidity in the Stomach and Belly produces the Pain and Heart-burning in the Stomach, a Cholera, or Cholick, or Dysentery, or Boulimia, and Ulcers.

2. A corrosive Temper of the Spittle corrodes the Teeth and Gums, and occasions sharp Catarrhs. The corrosive Temper of the Mucus of the Aspera Arteria produces a Phthisis, Spitting of Blood; and the corrosive Temper of the Mucus of the Nose an Ozena.

3. A corrosive Acrimony in the Seminal Lympha produces Salacity, Gonorrhæa Simplex, and Fluor Albus, if with Pain and Corrosion.

4. The Corrosiveness of the Lympha Nervosa is made evident by wandering, corroding Pains of the Head, and Limbs in the Scurvy, and Lues Venerea, and in Convulsions, or Cramps, and Melancholies.

5. The Humours of the Eyes have a salso-acid Corrosiveness, which inflames and ulcerates them.

6. The

6. The Milk in *Womens Breasts* acquires a *corrosive Acidity*, which produces *cancrous* or *schirrous Tumours*.

7. The *Blood* has a *corrosive Saltiness* in the *Scurvy* and *Hæmorrhagies*.

8. The *salt Serum* and the *Lympha serosa* have a *muriatic Corrosiveness*, which corrodes the *Flesh*, and hinders the *Nourishment*.

9. The *Urin* is corrosive in the *Strangury*.

10. The *Bile* is corrosive in *Diarrhæa's*.

11. The *Spleen-Acid* is corrosive in *Melancholies*.

The external Causes of *Corrosiveness*, are;

1. *Sharp, corrosive Diet*, of *sharp, stale Beer, and salt Meats, and smoaked, dryed Meats, burning Brandy Spirits, and sharp, acid Wines*.

2. *Violent Passions, Sadness, Anger, Anxiety, and Watching, Studies*.

3. *Immoderate Labour, and Venery*.

4. *Suppression of sharp Humours usually evacuated*.

The internal Causes.

1. The *Ebullition*, or *high Fermentation of Humours*, which stands next to the *putrefied State*; for whether the *corrosive Acrimony* be *vitriolic, saline, or muriatic*, which is a *Mixture of both*; it depends on a *violent, immoderate Fermentation of Humours*. As the natural *Acidity, Saltiness, and muriatic*

or armoniac Salso-Acid depends upon a natural and moderate Fermentation of Humours.

Corrosive, Acid Spirits are prepared by Chymists, with an extraordinary degree of the Fire; and so are the salt, acrid, pungent Acrimonies, as that of volatile Salts, which taste fiery, burning, salt, and pungent. There is a burning Acid in Oyl of Vitriol, in which the Acid is combined with Sulphur, and fiery Particles.

The Chymists prepare another corrosive kind of Medicines from an Acid and Metal, which mix in a cutting, tearing Texture, such as is that in the Crystals of Silver, and Sublimate.

In the tithymalline, corrosive Plants there is a Milky Juyce made of the Oyl and Acid, both which are very volatile.

In Minerals there is a natural corrosive Texture in Arsenick; which contains a Mixture of Sulphur and sharp Acid.

Whatsoever corrosive Qualities our Nourishment can acquire by Distillation by a strong Fire, the same may be produced by Fermentation, and Digestion in the Humours, when they are over-digested.

From Animals, a volatile, fiery Salt may be produced, and by that the Chyle and Blood, and all their secretitious Humours are made salt, and the hotter the Animal, or the stronger the Fire is,

is, the greater is the *Corrosiveness* of the *Salt*:

1. The *Salt* in the *Animal Humours* is made *corrosive* by its too great *Volatility*, and by this the *Apthæ* in *Fevers* are produced in the *Tongue* and *Mouth*, as the *Tongue* is blistered by *Spirit of Sal Armoniac* very *volatile*. This I call the *Urinous Corrosiveness*, and it is cured by the same Medicines as the *Saltiness* of *Humours*; for these States differ but in degree of a *high Fermentation*, by which they are prepared, and therefore requires the same *Specific Tastes* of *watery*, *acerb*, *tartareous* and *mucilaginous Medicines*; but those which are more strong can only succeed in the *corrosive State*.

2. The next Species of *corrosive Acrimony* is produced from a *tartareous*, or *natural vitriolic Acidity* much raised by *Fermentation*, when, being joyned to the *volatile Oyl of Blood*, it is made more *sharp*; so from *Bread*, and all *tartareous Vegetables*, an *acid Spirit* may be distilled.

The *Acrimony* of the *Spurge Juyce* resembles this *Acrimony*. The *Oyl* is manifest by the *Milkiness* of the *Juyce*; and that an *Acid* is in the same *Juyce*, appears, because it changes the Colour of the *Knife* which cuts it. Moreover, This *milky Juyce* is dried into a *Resin*, and all *Rosins* yield much *Oyl*, and a little *Acid*.

3. The Third Species of *Corrosiveness* is from the Mixture of a *pungent, burning Salt*, and a *high vitriolic Acidity*, like that in *Sal Armoniac*, which burns and corrodes the Mouth, and this may be called a *muriatic or armoniacal Corrosiveness*.

4. The Fourth and highest Species of *Corrosiveness* arises from *Putrefaction*. All *Putrefaction* is joyned with a *fætor*, and all *fætid Matter* corrodes the *Ulcer*.

The Cure of *Corrosiveness* is by the correcting the *vitriolic Acidity* or *Saltiness*, by the *Medicines* above-mentioned, and by stopping the *high and putrefactive Fermentation of Humours*.

The *Acrimony* of *Aqua Fortis* is corrected by the *Oyliness* of *Spirit of Wine*, or the *Caput Mortuum* of the same *Minerals* from which it is distilled; so the *acid Corrosiveness* of *animal, vitriolic Acidities* is tempered by *Minerals*, or *Animal Ashes*, and *volatile Salts*. And the *salt Corrosiveness* by the *crude Tastes*; as *Tartar Acids*, and *Styptic, mucilaginous Plants*.

The *Saturnine Styptics* stop *Fermentations* most strongly, and so do *acerb Styptics*, as *Plantane*, and *Opiates* also. All *Evacuations* by *Bleeding, Purging*, are necessary, and a *cooling Diet* also.

C H A P. XIV.

Of the Putrefaction of
Animal Humours.

1. **T**HE Meat in the *Stomach* is sometimes *putrid* by too high a *Digestion* in a *fætid Ructus*, which is very *Nidorous*, or the *Ulcers* of the *Stomach*.

2. The *Saliva* has a *nauseous, fætid Savour*, sometimes from *putrid Fevers*, or the *Corruption* of the *Fætus* in the *Womb*, or *Ulcers* in the *Lungs* or *Mouth*.

3. The *Mucus* of the *Aspera Arteria*, and the *Nose* is *fætid*, from the *Ulcers* in those parts.

4. The *Seminal Humours* are *fætid*, by the *Ulcers* in the *Genitals*; and the *Blood* of the *Infected*, by the *Pox* is full of a *putrid Ferment*, or *acrid Salt*, which makes their *Sweat* and *Breaths* to have a *fætid Savour*.

5. The Spirits themselves become very *fætid* in *putrefied Bloods*, by *Pains*, and *Passions*, and *Infections*. By *venomous Bites* the *Fætor* is also increased.

6. The *Milk* putrefies by the *Stagnation* in the *Breasts*.

7. The *Humours* of the *conglomerate* and *conglobate Glands* putrefie and ulcerate in the *Scrophulæ*.

8. The *Blood* putrefied has lost its *Fibers*, which makes it not to coagulate when *cold*, and it smells *fætid*.

9. The *Salt Serum* of the *Blood* is turned by *extraneous* or *internal Ferments* into the *Matter* of the *Itch*, *Leprosy*, and *Ulcers*. Upon the *Evaporation* of the *natural Spirits*, the *vitriolic Acid* prevails, on which depends the *chylous Whiteness* of *Matter*, which is precipitated and changed by it; so the *Serum* of the *Blood* is changed into a *white, milky Liquor* by *Spirit of Niter*.

10. The *Urin* and *Sweat* stink in *putrid Fevers*, as the *bilious Stools* do, and the *Blood* it self.

There are Three kinds of *Thinness* in *Animal Humours*.

1. An *aqueous Serosity*, which is evident in the *Blood*, which is *crude*.

2. A more *fluid Consistence* of *Blood*, depending on a great *Rarefaction* of *Blood*, whereby

whereby its own *oyly* and *salt Particles*, by their Agitation, attenuate and dissolve the natural *Viscidity* of the *Blood*, as appears in *Hæmorrhagies*, and the *hot Scurvey*; this is only the next degree or step to *Putrefaction*.

3. The Third Cause of *Tenuity* in the *Humours* is the *Putrefaction* of them, which is a perfect Destruction of all their *viscid* or *fibrous Consistence*, by a *high* and a *long Fermentation*; so in the perfect, ripe *Matter* of an *Ulcer*, the *Viscidity* is destroyed; and in *putrefied Eggs* their *ropy Consistence* is altered, and made *fluid*, so as not to thicken by *Boylng*.

The Causes of *Putrefaction*, and a *high Fermentation*, differ only in degree.

1. The *natural Fermentation* produces only *nutritious Humours*, and no farther resolves the *alimentary Mass* than what is necessary for the perfection of a fit Nutriment; but a *preternatural high Fermentation* proceeds farther, and produces both the *Acrimony*, *Saline*, or *vitriolic*, or a *thick Consistence* by *Coagulation* of the *Chyle* upon the *Blood*; but in the *putrefactive Fermentation* it is continued to the perfect *Dissolution* of all the *Viscidity* of our *Humours*, according to the Observation of *Crato*, *Fibræ Sanguinis, cum mittitur infectis peste ita putridæ sunt*,

ut concrescere nequeunt ; and this is properly called the *putrefactive Fermentation* ; for in the *Plague*, the *Infection* putrefies the *Blood*, and the *coagulate* or *putrid* Parts are thrown upon the *Skin*, and the whole *Body* stinks ; so that the *Eremite*, whom *Borellus* mentions, knew a Place infected by the *Plague* only by the *Smell*, which *Smell* was as he related ; *fætidus instar calceorum ustorum* ; and *Crato* observed, *contagii & fætoris magnam esse similitudinem*.

Whatsoever other Causes produce a *high Fermentation*, and continue the same very long, they cause a *Putrefaction* in the *Blood*, as all *feverish Ferments*.

2. When an *extraneous Ferment* corrupts a particular *Humour*, as the *Pox* doth the *seminal Humour*, the *Itch*, and external *Venoms* from the *Bites* of *mad* or *poisonous Animals*, infect the *Succus Nutritius*, or *Blood* near the *Skin*, and this is a *virous Putrefaction*.

3. Any inward *Humour* stagnating corrupts, and becomes a *Ferment*, as the *Sanies* in the *Ulcers* of the *Lungs*, *Liver*, or *Kidnies*, or *Cancers*, or *Ganggreens*, which infect and putrefie the whole *Mass* of *Blood* by little and little ; and this may be called an *Ulcerous Putrefaction*, such as is procured by *Suppuratives* laid to *Apostemes*.

4. There

4. There is a *cadaverous Putrefaction* in *Ganggreens*, with the greatest *fætor*, and *Bladders* containing a *sharp Water*. *Cancers* have such a *Smell*, and that is a *corroding Ulcer*.

In the *Scurvy* there is a *Fætor* of the *Mouth*, and the *Teeth* and *Gums* are *corroded*.

The *Humour* which issues from a *carious Bone* being tasted is *salt*, as *Mr. Regis* affirms.

By the great *Fætor* we may know the *Putrefaction* of *Ulcers*, and the *corrosive Sharpness* of the *Humours*; and this may be called a *Scorbutic Putrefaction*.

The Cure of *Putrefaction* requires,

1. The Avoiding of the evident Causes of *Putrefaction* of *Humours*, and the insisting on an *incrassating Diet*, which may produce a *viscid Consistence* in the *Blood*; as all *viscid Broths*, and *Jellies of Calves Feet*, *Harts-Horn*, *Ivory*, *Iceing-Glass*. All the *Mealy Diet* is here very convenient, and *Milk Diet*, and all the Diet prescribed in the Cure of *too high a Fermentation*; but the Diet in *Fevers* must be *thin*.

2. The *sharp Choler* and *acrid Ferment* in the *Stomach*, and *oyly Temper* of *Blood*, must be evacuated, and corrected by the *Medicines* mentioned in the Cure of a *high Fermentation*, for to that all *Putrefaction* must be imputed, according to the *Observation*

vation of our Ancient Physicians; *δημοσίης γίνεται συπόμενον ἀπαντά*, whatsoever putrefies is made hotter.

3. Every *extraneous Ferment*, and all kind of *purulent Matter*, must be evacuated according to the old Rule; *non alterari quod putridum, sed tolli postulat*.

These following Tastes check the *Fermentation*, and preserve the *Consistence* of *Liquors*, and precipitate the *Ferment*.

1. *Acids*, by which we stop *Fermentations* and *Putrefactions*. We preserve our *Plants* in *Vinegar*, when *pickled*. We find the *Vinegars*, which we call *Theriacalia Aceta*, to do much good in *putrid Fevers*, and the *Plague*. *Treacle Water* has much of an *Acid* in it. We ferment *Gangreened Parts* with *Vinegar*; and the *Juyces* of *Vegetables* are preserved from *Corrupting* by the *Acid Fumes of Sulphur*, which also restore them to their former *Vigour*. The *Oyl of Vitriol* is useful to *putrid Parts*.

2. The *salso-Acids* are very good in all *Putrefactions*, and therefore all *Ganggreens* are fomented with *Brine*, *Sea-Water*, or *Urin*; and common *Salt* preserves our *Humours* from *Putrefaction*; and *Spirit of Salt* is useful for *Imbalming* and *Preserving* of *Bodies*, and against the *Putrefactions* in the *Mouth*:

3. *Styp.*

3. *Styptics, Acerbs, and Austeres*; as *Tomentil, Pentophil, Bistort Roots, Bole, Terra Sigillata*, are used as *Preservatives* in *malignant Fevers*, and the *Bitings of Mad-Dogs*.

These following *Tastes* preserve the *Mixture of Humours*, and their *Fluidity*:

1. *Fixed Salts* hinder *Putrefaction* and *Fermentation*; so we foment *Mortified Parts* with *Lixiviums* and *Lime Water*. Both *volatile* and *fixed Salts* hinder the *fermenting* of *Milk* by *Rennet*, and *volatile Salts* hinder the *Putrefaction of Animal Humours* by the *Bite of a Viper*.

2. *Bitters* preserve *fermented Liquors* from *Decay*. Our *Chyle* is preserved from *Putrefaction* by the *Bitterness of Choler*; and our *bitter Turpentine*, as well as *Cedar* it self, preserve *dead Bodies* from *Corruption*; and we prevent *Gangreens* by *bitter Plants*; as *Roots of Gentian, Aristolochia, Leaves of Centaury, Rhue, Wormwood, Scordium*; and by *Myrrh, Aloes, and Meal of Lupines*: and we give inwardly *Treacle* and *Mithridate*; all which have a great *Bitterness*.

3. We use *Acrid Plants* inwardly and outwardly in *Gangreens*. By the *Scurvy*, as *Water-Cresses, Horse-Radish, Spirit of Scurvy-Grass, Mustard-Seed, lesser Celandine, and Garlic or Leek Pottage*. Outwardly, *Decoctions of Turnips, and Cataplasms*.

4. By

4. By the acrid *Aromatics* we sweat, and outwardly discuss *Humours*; as Roots of *Serpentariae*, *Contrayerva*, *yellow Flag*.

By *Spirit of Vine*, *Ulcers* are preserved from their *fætor*; and for the same end we use *spirituous Cordials* inwardly.

5. We use vitriolic *Styptics*, which are *corrosive*, also outwardly; as *burnt Alum*, *Sublimate*, and *Precipitate*, which, by their *Stypticity*, stop the *creeping Ulcer*; and by their *caustic Acrimony*, they deterge the *sordid Ulcers*, and separate the *dead Flesh*.

APPENDIX

APPENDIX I.

C H A P. XV.

Of F E V E R S.

IN a Feverish State of *Blood* there happens a violent *Fermentation* of the whole *Mass of Blood*, as appears by the *quick Pulse*, the *high-coloured Water*, the *Alterations of Heat and Chilliness*. This sudden and great Alteration of the *Humours* the *Ancients* explained by *Putrefaction* of the *Blood*, or of *Choler*, or *Melancholy*, or *Pituita*. There are many other Notions framed for the explicating the Nature of *Fevers*, and their *Symptoms*; but I shall endeavour to explain more particularly the Opinion of the *Ancients*, and to accommodate it to the Modern *Hypotheses*.

That a *Fever* is a *Putrefaction* of the *Blood*, or some of its Parts, seems probable by the *fætor* of the *Sweat* and *Urin* in that Disease,

Disease, by the infectious Nature of it, which lies in its *fætid Effluviums*, which reduce the *Blood* of another *Animal* to the same State and Symptoms. None can deny the *Putrefaction* in the *Plague*, which putrefies all our *Humours* to a *mortified* State.

The *Petechiæ* and *purple Spots* shew malignant *Fevers*, and the *Small-Pox* and *Measles*, to be lower degrees of the same *Putrefaction*.

The violent *Heats* in ordinary *intermitting Fevers* produce a putrefactive Dissolution of *Humours*, which are thrown off in *Sweats*, and appear in the precipitated *Sediment* of our *Urin*, as well as by the Evacuation in a *Cholera*, *Diarrhœa*, *Salivation*, which are Symptoms of the *Fever*, the whole *Succus Nutritius* is dissolved from the *solid Parts*, as well as the *Mass of Blood*. Hence the *Body* becomes flaccid, and empty of Nourishment after long *Fevers*; and then we supply that defect by a nourishing Diet, ~~as~~ after the *Fever*.

Since there appears so much of a *Putrefaction* in *Fevers*, I think that Notion of the Ancient Writers ought to be inserted into the Definition of a *Fever*.

I shall next consider the Notion of a *Fever*, described by a *Fermentation*, or *Ebullition* of *Blood*, caused by some *extraneous Ferment*,

Ferment. And such a Commotion of *Blood* happens by *too high a Diet*, which stums or ferments the *Humours*; or else any of the *Humours*, which are naturally to be evacuated, being stopt in their *Expulsion*, become an *extraneous Ferment* to the *Blood*, or else the *Succus Nutritius*, as soon as it arrives at the *Blood*, is perverted by some *Dyscrasie* of it into an *extraneous, morbid Nature*, and becomes a *Ferment*, or else the *Nutritious Juyces* are precipitated from the *Blood* by external *Cold*, and become the *ferment* of all *intermitting Fevers*.

The particular *Ferment* which produces each kind of *Fever* differs by some *Cacochymia* which was in the *Blood*, or *Succus Nutritius* before it was precipitated, by some abuse of the *Non-Naturals*, or *Surfeits*, or *Colds*, though the *Succus Nutritius*, altered by external *Causes*, is the general *ferment* of all *Fevers*; yet that differing, according to the several *Cacochymia's* that may happen to it, the *ferment* of each *Fever* (being the immediate *Cause* of its *Ebullition*, and the first thing to be removed or changed) ought most particularly to be described, because the *Cacochymia*, with which the *Succus Nutritius* abounds, produces the most eminent *Symptoms* of each *intermitting Fever*, and that *Cacochymia* does very much

much alter the general Cure of an *intermitting Fever*. As for instance, If *Rheumatic Pains* accompany an *intermitting Fever*, the *Cacochymia* preceding the *Fever* is a *viscid State* of the *Succus Nutritius*, and the *Blood* is *viscid*, as in *Rheumatisms*. In the Curing of this, the common Method for Curing the *intermitting Fever* is not sufficient, of giving the *Cortex* without due Preparation, *viz.* for the *Cacochymia* infecting the *Succus Nutritius*, there must precede the *Evacuations*, indicated by a *viscid State* of *Blood*, *viz.* *Bleeding*, and *Purgings*, or *Vomiting*, but not so much as in a *Rheumatism*, without an evident *intermitting Fever*.

The *Symptoms* preceding the Fit generally denominate the particular kind of *Fever*, and if great, the whole depraved *Succus Nutritius* being evacuated upon a particular Part, the Cure is chiefly to be managed by removing that particular *Inflammation*, as *Pleurisie*, or *Peripneumonia*, without any or very little regard to the *intermitting Fever*.

The Notion of a *Fever* being produced by the Irritation of the *Spirits* in the *Blood* and *Nerves*, very well explains the Action of the *Air*, and infectious of *Animal Humours*, for those are first infected; and that the *febrile Effervescence*, *Commotion*, *Ebullition*,

tion, *Expansion* (call it as you please, for the same thing is understood by all these Terms) is managed by the *Animal Spirits*, which circulate from the *Nerves* into the *Blood*, and from thence to the *Nerves* again, is very probable, and this Galen seems long since to have described, when he defines a *Fever* to be the turning of the innate heat (which is the *Spirits*) into a fiery Nature; but it is as evident, that every Person has some antecedent *Cacochymia*, by which the particular Symptoms of the *Fever* are produced, and this, by exceeding the Strength or Expansion of *Spirits*, makes the *Fever* malignant, or by being in no great quantity, or more loosely mixed with the *Succus Nutritius*, the *Fever* is mild, and easily cured. The several stages of the Disease are very naturally described by the separation of the greater quantity of the *Succus Nutritius* from the *Blood*, in the increase of the *Fever*, and the *Crisis* is a full or perfect Separation of all the depraved *Succus Nutritius* from the *Mass of Blood*, when the *Fever* is curable, and then the febrile *Effervescence* ceases; but if the *Succus Nutritius* be but in part separated, the *Mass of Humours* remain turbid and undepurated, and the *Fever* becomes fatal.

The *Spirits* being the chief Instruments of all *Fermentations*, the several Stages of this Disease must be managed by them; but we must look farther, and describe the *Humours* which irritate them first into Motion, and the depraved *Humours*, which the irritate *Spirits* endeavour to exterminate from the *Mass* of *Blood*, the Motion of the *Spirits* would soon be stopt, as we find in *Ephemera's*, if some depraved *Humour* in the *Blood* did not support the Irritation of them, who cannot naturally depurate the *Blood* under 14 or 21 Days, or longer. Hence it appears how reasonable the Opinion of our Moderns is, who describe a *Fever* as an *Effervescence* of the *Blood*, by which it clears it self of some *heterogenous Particles*, which, as they produce the *Effervescence*, are called a *Ferment*; and as they irritate the *Spirits* a *Venenum*; and as they are the depraved Matter of the *Succus Nutritius*, the *putrid Particles* of it, or *febrile Sediment*, appearing in the *Urin*. It is not my Design to oppose any Author's Judgment, but to reconcile these several Opinions, and put them all into the Definition of a *Fever*, thus.

A *Fever* is a preternatural *Fermentation* or *Effervescence* of the *Blood*, occasioned by some *Ferment* irritating the *Spirits* of the *Blood*

Blood and *Nerves*; so the Dissolving, or Putrefying, and Separating some part of the *Cacochymical Succus Nutritius* from its Mixture with the *Mass of Humours*.

The tumultuous Agitation of the *Spirits* in the *Ephemera* happens by the ill Use of the *Six Non-Naturals*.

1. As *Surfeits*, which are Cured by a *Vomit*, *Purge*, *Clyster*, by which the putrefying Diet, which is the *Ferment* here, is carried off.

2. The *Heat* of the *Sun* being excessive inflames the *Spirits*; and *Opiates*, and *cool things*, readily compose them, and *Oxyrhodines*.

3. Too much *Labour* spends and agitates the *Spirits*, in which case *Spirituous Cordials*, *Wine*, and *Rest*, are necessary.

4. *Anger* disorders the *Spirits*, whose furious Motions are best repressed by *Opiates*, and *cool Emulsions*.

5. Long *Watchings* require *Opiates* and *Anodynes*.

6. *Grief* agitates the *Spirits*, and spends them; for which, *Wine*, *Spirits*, and *Opiates*, are necessary.

The Cure of an *Ephemera*, which is a tumultuous Motion or Inflammation of the *Spirits*, requires these Tastes.

1. *Acids in cool Liquors, Sp. Nitri dulcis, Sal Prunell. Tamarinds, Gas Sulphuris, or the Juyces of Acid Fruits.*

2. *Mucilaginous and watery Liquors, Aq. Hordei, cum Syr. Limonum, Milk Waters, Emulsions.*

3. *Opiates.*

4. *Diaphoretics of a mild Nature, bitterish.*

5. *Styptics watery to stop the Fever, Plantane.*

Bleeding, Purging, Clysters, Vomiting, Quiet, and Abstinence, or a thin Diet, often stop the Effervescence, by carrying off the fermenting Humours.

The Ancient Writers distinguished *putrid Fevers* by the *Putrefaction of Blood, Choler, Melancholy, and Phlegm*; and this is to be explained by an *Effervescence* happening in such a particular *Cacochymical Blood*.

The common Fever in *England* is an *intermitting Fever*; and that is the *putrid Fever* the Old Physicians have described, and this is produced by the *Changes* of our *Air*, the *viscid Nature* of our *Diet*, or the *infectious Vapours* of the *Earth*, and *Seas* encompassing us, which precipitate or putrefie the *Nutritious Juyces* of our *Bodies*, and that is evident in our *Urins*, and is the *Matter* of all *critical Evacuations*, by which the *Fever* is cured, and this supplies all the *Humours*

mours for colliquative Evacuations in Fevers; as *Diarrhœa's, Salivations, Sweats, &c.* This being evacuated upon particular Parts produces the several Inflammations; as *Quinsie, Apoplexies, Lethargies, Palsies, Pleurisies, Rheumatisms, Cholics*, which are the Symptoms of the ordinary *intermitting Fever*, and distinguish it into its several Species.

This depraved *Succus Nutritius*, by Natures Method, ought to be fully separated from the *Blood*; but Physicians do not commonly trust that tedious way, but by the *Cortex* they precipitate what is easily separable of *Nutritment* by the *Urin*, and re-assimilate the rest of the *Nutritious Serum* to the *Blood*, as will manifestly appear by observing the several Changes of the *Urin*, and its *Sediment*; and we observe that *Bitters*, like *Choler*, are the best *Sanguiflers*, and also the best *Febrifuges*, and the *Cortex* has a most eminent *Bitterness*, not unlike the *Bitterness* of bitter *Almonds*, by which it re-assimulates part of the *Nutritious Fuyces* to the *Mass of Blood*.

I will mention the several *Cacochymia's*, which are only the several States of the *Nutritious Humours*, antecedent to the *febrile Effervescence*, by which; the several Species of the *intermitting Fever* are distinguished; but I must first observe, that the *intermit-*

ting Fever differs little from the Ague, but by having more of the *Succus Nutritius* putrefied, and precipitated from the *Mass of Blood*, and that so much of it is not sweat off by every *Paroxysm* in the *intermitting Fever*, as is in the *Ague Fit*, which makes the Fever less in the *Intervals* of the *Fit*; but the *intermitting Fever* often changes into the *Ague*, and is cured by the same Method.

First, If the *Fever* happens in the *bilious Cacochymia* of *Blood*, and in *Young Persons* in the *Summer* time, a *Causus* is produced, with extream *Heat* and *Thirst*, and in this the *Heat* and *Thirst* is much abated by *Acids*, and the *Fever* is to be treated by such Methods as respect both the *bilious Cacochymia*, and continued or *intermitting Fever*, whether the *Tertian Ague* has the same *Cacochymia*, and intermits every other Day.

The Cure of this *Cacochymia* indicates,
I. *Vomiting* in the beginning, and *Purging* on the Days of *Intermission*, with *Decoc. Amarum*, or *Glysters*, to evacuate the abundant *Choler*.

II. The *Choler* is to be precipitated from the *Blood*, by *Urin*, and *Sweats*, and the *Liver* opened.

I. By

1. By *Acids*; as *Crem. Tart.* 3*i.* in *Chamomile Flower Posset-Drink*, given before the *Fit*, or *Juyce of Limons*, with *Water* and *Wine*, or *Spirit of Sulp.* 20 drops in *Fountain-Water* or *Purflain-Water*, with *Sp. Sulph.* 3*fls.* and *Syrup of Limons*.
2. *Salso-Acids* are *Diuretics* and *Sudorifics*; as *Tart. Vitriol. Sal Armoniac. Arcanum duplicatum*, of any gr. xv. *Oc. Canc.* 3*fls.*
Or the *Salt Mixture of Riverius*; as *Sal Absynth.* 3*fls.* *Sp. Sulph. gut.* xii. *Syrup of Poppies* 3*fls.* *Carduus-Water* 3*ij.*
Or *Mixt. Salts*; *Sal Absynth. Prunell. Antim. Diaph.* ana gr. xv.
3. *Bitters* have the same effect of *Sweating*, or *re-assimulating* the *Nutritious Juyces*; as *Aq. Plantag.* 3*ij.* *The-riacæ* 3*i.* before the *Fit*, *Gentian, Centaury, Feverfew, Chamomile-Flowers, Chamædrys, Vervein, &c.* decocted, and given with *Myrrh* or *Mithridate*, before the *Fit*; these open the *Liver*, for the better *Passage* of the *Choler*; they also depurate the *Succus Nutritius*, and prevents its *Putrefaction* in *Fevers*.

Chelandine and *Saffron* are also useful in *Tertians*, by opening the *Liver*, and helping the *Secretion* of *Choler*, as is also *Dandelion*.

III. The feverish *Ebullition* may be suppressed by *Acerbs*; as Decoction of *Ribwort*, *Plantain*, or the *Juyces* of *Plantain*, *House-Leek*, *Sorrel*, *Purslain*, *Polygonum*; or by *Austeres*; as *Avens*, *Cinquefoil*, Roots of *Plantain*, *St. John's-Wort*, Roots of *Tormentil*, *Ulmaria Leaves*, *Juyce of Millefoil*, Barks of *Ash*, *Tamarisk*; but in general Use the *Cortex* has the greatest Commendation.

Alum is also much extolled; but repeated *Bleeding*, and all the Methods for Curing the *Cacochymia*, I constantly use before the Cure of the *Fever* by the *Cortex*, unless the Danger of Delay be great.

Outwardly we apply,

1. *Styptics*, *Nut-Tree-Bark* steeped in *Vinegar*, and *Mouse-Ear*, or *Shepherds Purse*, *Goose-Tansie* steeped in the same, with *Salt* applied to the *Wrists*.
2. *Opiates* externally as well as internally, *Ung. Populeon* $\frac{3}{4}$ ij. *Opium* gr. iv. *Spiders Web*, *s. a.* applied to the *Wrists*.
3. *Salso-Acids* externally as well as internally, *Sal. Gemm. Sal Armoniac.* and *Niter*, *Soot* and *Vinegar*, with *Spiders Web*, *Sea-Salt*, *Currans* and *Hops*, applied to the *Wrists*. Secondly,

Secondly, If an *intermitting Fever* happens in a *mucilaginous Constitution of Blood*, such as is in *Phlegmatic Persons, Women, or Children*, the *putrid Fever* takes the Type of a *Quotidian*, the *Paroxysms* last many Hours, and the Disease 40 Days or more, and a *Paroxysm* happens every Day, with great *Cold*, and the *Heat* is not very great afterwards.

In this *pituitous Dyscrasie of Blood*, we must vomit off the quantity of *Pituita*, and purge upon Intermittions, and the *pituitous Cacochymia* must be corrected by *Bitters*; as,

1. *Bitter Decoction, Wormwood-Wine, Myrrh, Juyce of Wormwood* one Spoonful, or *Juyce of Chamomile in Wine*, before the *Fit*, *Mithridate or Treacle* before the *Fit*, or *Carduus-Leaves powdered. Elixir Proprietatis Di. Aq. Lumbric. 3ij. before the Fit. Radix Serpentariæ 3ss.* externally. The *Stomach* may be fomented with *Gentian, Wormwood, Mint and Aromatics* boiled in *Wine*.

2. *Fixed Salts and volatile evacuate the Cacochymia*, both by *Sweat and Urin. Sal Absynth. Sp. Sal. Arm. in Aq. Card. & Theriac.*

3. *Aromatics, Sal volatil. oleosum.*

The external Applications are such as quicken the *Pulse*, and thereby keep off the *Cold*; as *Camphire, Soot, Saffron, Galbanum, Tur-*

Turpentine with Olibanum and Bole, Myrrh, Saffron, Aloes, Onion, Gun-Powder and Soap, Nettles, Rheu, Featherfew, Wormwood, bruised together.

This Fever Sylvius calls his *Salivaris*, or *Pituitosa*.

Thirdly, If an intermitting Fever falls into a tartareous Blood, or *Lympha*, this Fever has Gripes, and Pains of the Belly attending it, a low Pulse, little Thirst, crude and watery Urin, but much Cold; for the Curing of which *Cacochymia*, *Vomits* and *Clysters*, such as are used in the *Cholic*, much conduce to discharge the *tartareous Lympha*, and for the correcting of it.

1. *Volatile Salts*.

2. *Distilled, aromatic Oyls*, which correct the Chilliness attending this Fever. Oyl of Cloves, Mace, or *Sal volatile oleosum*, with *Laudanum*, for the Pains.

Fourthly, If the intermitting Fever falls into a flatulent, crude Blood, a Distension is perceived in the Belly, or *Inflation*, short Breathing in the Lungs, and wandering, nervous Pains in the Limbs, with Giddiness, and Noise in the Ears. In the Cure of this Fever the *Flatulencies* must be removed, as well as the *Effervescence* suppressed.

Fifthly,

Fifthly, If a Fever happens in a serous Cacochymia, the conglobate Glands are affected, and the Limbs with Lassitude or Pains; the conglomerate Glands are also affected, as appears by Dulness of the Head, and Sleepiness; by Coughs, Hoarseness; and this Sylvius calls, The Catarrhal Fever, and the Cure of this requires, the Evacuations of the Serum, by Purging, Urin, Sweating, as well as the Cure of the Effervescence. Errhines, Masticators, and Fumes, are useful.

Sixthly, If a Fever happens in a rancid, oily State of Blood, it produces a scorbutic Fever, with high-coloured Urin, and Spots in the Skin; and in this Antiscorbutics are as necessary as the Febrifuges.

Seventhly, If an intermitting Fever happens in a sizie, viscid Blood, it produces rheumatic Pains, and all kinds of Inflammations; as the Apthæ, or Inflammations of the Mouth, the Quinsie, Parotis, or the Inflammation of the Glands, the Inflammation of the Intestines, or Stomach, or Liver, or Spleen, Nephritis, or Inflammation of the Kidnies, Phrenitis, or the Inflammation of the Brains, Ophthalmia, Peripneumonia, Pleurisie, Inflammation of the Breasts, the Uterus, or Stones, Lethargies, Apoplexies, Palsies, Rheumatisms, and all hot Pains.

These

These are the Distempers attending *Fever*, when the *Blood* is *sizie*, and that requires all the Methods proper for altering that, as well as stopping the *Fever*.

Eighthly, If the *Fever* happens in a *salt Blood*, it has great *Thirst* attending of it, and *Hæmorrhagies*, and runs into a *tabid State*. In this *Fever*, I observed a *Hæmorrhage* to preceed every Fit of the *intermitting Fever*; in Mr. Schrimsher of *Aquilate*, who, through an *Aversion* to the *Cortex*, lost his *Life* in it, and died *Convulsed* after divers Fits of the *Fever*, with a *Hæmorrhage*, which returned at a certain Hour.

Ninthly, If the *intermitting Fever* happens in a *vitriolic State of Blood*, all the *hypochondriac Symptoms* are joyned with the *Fever*, and the *Fever* appears under the Type of a *Quartan*: The Cure of which requires *Evacuating*,

I. Of the *vitriolic Humour* in the *Stomach*, by *Vomiting*, and *Purging* off the same on the *intermitting Days*.

II. The *vitriolic Humour* must be *corrected*,

1. By *Bitters*, *bitter Decoction*, *Wormwood Wine*, *Elix. Proprietatis*, *Myrrh*, with *Treacle*.

2. By

2. By *fixed Salts*, *Extract. Carduus* with *Salt of Wormwood*. Take *Conserve of Hips, Wormwood, Enula, Scurvy-Grass, Citron Pills*, of each $\frac{3}{4}$ i. *Saffron* $\frac{3}{4}$ i. *Sal Absynth.* $\frac{3}{4}$ i. *Confectio Alcherm.* $\frac{3}{4}$ ss. with *Syrup of Citron*, make an *Elect.*
3. *Chalybeates* are absolutely necessary after the *Fever* is stopt, to correct the *vitriolic Humour*; and sometimes the *Fever* cannot be stopt till the *Humour* is corrected, as I have often experienced in my younger Son, who had the *Quartan* four Years by *Relapses*. No *Febrifuge* could put off his *Fit* till he had used *Steel* fourteen Days, or three Weeks, and the *Cortex* could do him no Service, nor would put off a *Fit*; at last, he having used at least a Pound of it, by often repeating of it, profuse *Bleeding*, as 40 Ounces of *Blood* from a Child of Nine Years Old, did more for the Cure of his *Ague* than all the *Febrifuges*, for his *Blood* was extream *viscid*, and *Steel* always cured his *Cachexy*. I gave him *Vitriolum Martis* sometimes, and Dr. *Willis's Steel* at others, dissolved in a convenient *Julep*.
4. The *Earthy Calces*; as *Antim. Diap. Bezoar Minerale*, with *fixed Salts* and *volatile*,

volatile, may be reduced into *Pills*, with *Extract of Gentian*. The *Ashes* of *Oyster-shells* are good to correct the *vitriolic Humour*.

III. The *Paroxysm* must be checked or stopt,

1. By *bitter Styptics*; as the *Cortex*. The reason of its inefficacy in the Dose, in which it was formerly given, is the Mixing of the *Chips* of the *Tree* with the *Bark*; and it is evident, that the *Bark* exceeds the Taste of the *Wood* in all *Trees*, and is of a stronger Virtue. Let therefore the *Apothecaries* keep the *Chips* for *Decoctions*, and use the *Cortex* only in *Powder*; for they well know, that the *Cortex* of *Guaicum* is stronger than the *Wood*.

Lignum Colubrinum, *Ash*, *Guaicum*, *black Cherry-Tree*, are much commended for *Quartans*; as are also *Myrtle-Leaves*, and *Mistletoe*.

Five-Leaved-Grass, *Potentilla*, *Avens*, *Plantain-Roots*, are austere.

2. By *Acerbs*; as the *Leaves* of *Ribwort Plantain* boiled in *Posset-Drink*, which cures some where the *Cortex* has failed.

Alum is very much used, &c. in *bitter Decoction*, or with *Nutmeg*.

3. *Natu-*

3. Nauseous Bitters ; as *Carduus Leaves* 3ss. *Alum* 3i. taken in *Ale* before the *Fit*, or *Myrrh* 3ss. in *Wine*, or *Treacle* 3i. before the *Fit*.
4. By acrid *Terebinthines* ; as Roots of *Asarum*, *Valerian*, *Serpentaria*, Decoction of *Ivy-Wood*, and *Savin* applied to the *Pulse* with *Salt*.
5. By other *Acrids* of the *Orris Class* ; as *Zedoary*, *Ginger*, *Contrayerva* ; or other acrid *Aromatics* ; as *Pepper*, *Radix Imperatoriæ* 3i. cum *Vino*, *Pepper* 14 grains in *Wine*.
6. *Fætid Acrids* ; as *Rhue* one handful, *Red Sage* as much, infused in *Wine*, and given before the *Fit*. A *Nutmeg* roasted in an *Onion*.
7. *Salso-Acids* ; as *Sal Absynth.* 3ffs. *Sal Prunell.* 3ss. *Sacch.* *Perl.* 3ij.

The *Acerbs* and *bitter Styptics* precipitate the depraved *Succus Nutritius* from the *Blood*, the *Acrids* and *Salts* throw it off by *Sweat* and *Urin*. A *Purge* given six or eight Hours before the *Fit* evacuates the digested *Succus*, and is successful after six or eight Months.

8. *Opiates* stop the *Pulse*, and all *Fermentation*s.

9. The

9. The Pericarpia are of *Styptics* ; as *Bole*, *Mastich*, *Bursa pastoris* and *Astoris*, *Knot-Grass*, *Argentina*.

Or *Acids* ; as *Vinegar* with *Gun-Powder*.

Or *Caustics* ; as *Nettles*, *Ranunculus*, *black Soap*.

Tenthly, If the *Fever* happens in a *Blood* putrefied, the several Sorts of *Malignant Fevers* are produced, with a low *Pulse*, feverish Symptoms, *Watching*, *Delirium*, *Convulsions*, and a sudden failing of the *Spirits*.

I. The *Spirits* being decayed, fixed, or oppressed, or weakened by *Evaporation*, become unfit to manage any extraordinary *Fermentation* ; for the *Depurating* of the *Blood* by an *Effervescence* from any of its depraved *Succus Nutritius* ; and, in this Case, all the Medicines against *Malignity*, which are of the following Tastes, are very necessary ; as,

1. *Volatile Salts* and *fixed*, *Cineres Bufonum*, *Salt of Vipers*.

2. *Acrids*, *Angelica*, *Zedoary*, *Imperatoria*, *Petasitis*, *Serpentaria Virginiana*, *Contrayerva*, *Aq. Ber. spec. liberantis*.

3. *Bitters* : decoct. *Amarum sine sena*, *Mithridate*, or *Treacles*, *Syr. of Carduus*, *Scordium*, *Veronica*, *Vervein*, or the *Juyces* or *Extract* of them.

4. *Fætids*,

4. Fætids, Camphire, Garlic, Castor, Troches of Vipers Flesh, Rhue.
5. Mineral Sulph. and Calces, Antimon. Diaph. Bez. Miner. Cinnab. Antim.
6. Acids, Acetum Bezoardicum, Syr. of Citrons, Spirit of Vitriol.
7. Salso-Acids made by Mixing contrary Salts.

II. The Second Species of a malignant Fever is from the Translation of the depraved *Succus Nutritius* upon the *Head* and *Nerves* in the *intermitting Fever*, which requires all manner of Revulsion; as *Bleeding* in the *Neck*, *Glysters*, *Blisters*, *Cataplasms* to the *Feet*; besides *Diaphoretics*, *Diuretics*, and *Cordials*, to support the *Spirits*, and the *Fermentation*.

III. The Third Species of a malignant Fever is from the *Infection* of the *Air*, whose fætid Sulphurs cause divers degrees of *Putrefactions* in several parts of our *Bloods*, and accordingly produce the several *epidemical, malignant or pestilential Fevers*.

1. In the *petechial, spotted Fever*, and the *scarlet Fever, or Measles*, the *florid Particles* of the *Blood* are corrupted, or coagulated, or putrefied, and thrown into the *Skin*.

2. In the *Small-Pox*, not only the *florid*, but also the *viscid Particles* of the *Serum*

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are coagulated, and thrown into the Skin to putrefie, and be expelled. We observe in the Small-Pox a *sizie Blood*, as well as a *putrefactive State of Humours*; the *Siziness* makes it an *inflammatory Fever*, and commonly requires *Bleeding* before and afterwards. We keep a *thin and low Diet*, both in respect of the *Inflammation* and *Fever*. We use also Medicines against *Malignity*, because of the *Imbecillity of Spirits* in so great a *Putrefaction of Blood*, and that we may expell the *putrid Particles* of the *Succus Nutritius*. We use also, after the *Expulsion of the Succus, Febrifuges*, as the *Cortex*, to remove the *Paroxysm* of the *intermitting Fever*, joyned with the *Small-Pox or Measles*. And we ought to consider the several *Cacochymia's* which distinguish the Species of the *Small-Pox*.

3. In the *Plague and Poysons*, which putrefie the *Blood*, the whole *Mass* is putrefied; in this, a great Pain of the *Head*, with the greatest *Faintness*, seizes; a *stinking Breath*, *wandering Pains* about the *Emunctories, Heat* and *Cold*, are the usual Symptoms.

The *Bubo's, Carbuncles, and Petechiæ*, are *Particles of the Blood* drove into the *Skin*.

All things which preserve from *Putrefaction*, preserve from the *Plague*. As,
I. *Bleed-*

1. Bleeding, and Purging with Aloetics ;
as Pil. Ruffi. Elix. Proprietatis.

2. The Antidotes are,

1. Bitters ; Extract of Gentian with Myrrh, Conserve of Tansie, Wormwood, Rhue with Diascord. Treacle, and Conserve of Wood-Sorrel.

2. Acids ; as Spir. of Sulph. Niter, Salt, Vitriol in Wine, Drink, or Broths, or Juyce of Limons, Rhue, Vinegar, with Bread and Butter. Posset-Drink with Acetum Bezoardicum. Juniper-Berries steeped in Vinegar.

3. Aromatic Acrids ; chewing Zedoary, Angelica, Mace steeped in Vinegar, Marigold-Flowers in Vinegar. In pure Bodies the Aromatics do Injury ; and to Infants vehement Dryers ; Camphorates, Myrrhates, and Bitters.

4. Fætids ; Rhue, Vinegar, and Camphire, are to be smelt to, and Tobacco smoaked in the Morning, and the bitter Wine in the Morning, and a Sudorific Elect. at Night.

Sulphur with Honey is accounted an excellent Antidote.

Salt-Peter and Sulphur correct the Air by their Fumes, or Gun-Powder, or Acetum Theriacale.

3. Styptics ; as Bole, Tormentil, Pimpinella, Ulmaria in Wine.

In the Summer, Young Men, take heed of hot things, and use *Acids* and *Styptics*, and moderately hot ; as *Borage*, *Balm*, *Saffron*, *Burnet*, *Citron Pills*, *Clovegilly-flowers* ; or moderate *Aromatics* internally, and *Vinegar* with *Camphire*.

Aromatics inwardly are fittest for Winter and Old Persons ; *Oyl of Amber*, *Bals. Peru*, *Nutmegs*. Outwardly, and in Fumes, *Pitch*, *Frankinsence*, *Assa Fætida*, *Turpentine*, *Myrrh*, and other *resinous Plants*. *Juniper*, *Cedar-Wood*.

All the *Bezoardics* above-mentioned are necessary to promote *Sweat*, and drive forth the *putrefied Particles* of the *Blood*.

The pestilent *Camp Fever* is from Eating of *putrid Meats*, which ought to be *Vomited* and *Purged* off, and after *Bezoardics* for the *Malignity*, or *putrid State of Humours*.

In all *putrid Fevers* Authors advise to respect the *Malignity*, as well as the *Fever*.

The *continued Fever* differs not from the *intermitting*, since it remits in the beginning, or *intermits* at length, and they frequently change from one to the other, and the depraved *Succus Nutritius* is the *ferment* of both ; but in the *continued Fever* it is not so easily precipitated from the *Blood*, and discussed by a *Paroxysm*, as in the *intermitting*, and their *Cure* differs little.

1. All evident Causes of those *Fevers* must be removed.

2. The depraved *Chyle*, or its quantity, must be evacuated by *Vomits, Purges, Clysters*, that no new Matter may be supplyed to irritate the *Blood*.

3. The *Effervescence* of *Blood* must be depressed if too high.

1. By a *thin Diet, sub-acid or mucilaginous Ptyfans*.

2. By *tartareous Acids, Syrups of Limons, Citrons, and Acid Spirits, or Quiddanies of Fruits*.

3. By *Acerbs, Tinct. of Roses, Plantain, Sorrel decocted, Sedum, Posset-Drink, Servises, Berberries*.

4. By watery and mucilaginous Liquors; as *Emulsions, Purslain, Lettuce-Waters*. By the *cichoraceous Plants*; *Barley-Water, or Milk-Water, or Whey*.

5. *Opiates*.

6. By *Bleeding, Glysters, Vomiting, Purging* in the beginning.

4. The *Effervescence* of the *Blood* must be raised, if depressed through *Weakness of Spirits, or multitude of corrupt Succus Nutritius*, which stops the *Circulation*.

The *Bezoardics* above-mentioned excite a greater *Effervescence*.

5. The depraved *Succus Nutritius* must be precipitated from the *Blood* in the beginning, or increase of the *Fever*, by *Acids*, *Acerbs*, *Styptics*, which are the best *Febrifuges*: But the *Salts*, both *volatile* and *fixed*, best precipitate the *tartareous* Parts of the *Blood*, separated by a long *Effervescence* at the end of the *Fever*, and they separate it by *Urin* or *Sweats*; but the *Acids*, *Acerbs*, and *Styptics*, are good Precipitators of the *viscid Salt*, and *oyly Particles*, which promote the increase of the *Fever*.

6. The disturbed *Crasis* or *Consistence* of the *Blood* must be restored; that is, some of the *Succus Nutritius* remixt with it into an equal *Consistence*, and that by digestive Medicines, which partly precipitate the looser *Particles*, and re-unite the rest. Such are,

1. Bitter *Acrids*; as *Theriaca*, *Rad. Serpent. Contrayerva*.

2. *Salso-Acids*.

3. The *Calces of Minerals*, and *testaceous Medicines*.

4. Bitter *Styptics*; as the *Cortex*, which precipitates, as is evident in the *Urin*, by its *Stypticity*, and digests, unites, or assimilates the depraved *Succus Nutritius* to the *Mass of Blood*, which, for want of a due Dose, separates again from the *Blood*, and renews the *Fever*.

That
is, the
dose
is
not
large
enough

That the *Succus Nutritius* depraved is the ferment of a *Fever*, is evident, because any *Animal, Nutritious Humour* depraved and suppressed, produces a *Fever*.

1. The *Milk* in the *Breasts* produces the *Febris Lactea*, which being repelled, or putrefying in the *Breasts*, is the ferment of that *Fever*, and is to be evacuated by a plentiful *Sweat*, or the *Lochia*.

2. The Suppression of the *Lochia* produces the *purple Fever* in Women, which *Langius* calls, *Pestis Sororum*; and this must be cured by Restoring the *Evacuation*; for the *Lochia* are here the ferment of the *Fever*; and by *Bezoardics*, the *putrid Blood* must be exhaled.

3. The Suppression of the *Menses*, or *se-
minal Matter*, produces the *Febris alba*, with *Pain of the Head, Stomach, Back*, and sudden *Effervescesces* happen, with *Lassitude, Pal-
pitation, Dyspnæa*, and *Inflation of the Hy-
pochondria*. This is to be cured by restoring the *Evacuation* of those *Humours* which ferment the *Blood*.

4. The Suppression of *Transpiration* produces a *Fever*, with *Rheumatic Pains*, and till that *viscid Serum* is cleansed by *Urin*, or *Sweat*, that is the ferment of a *Fe-
ver*.

A *vinous* or *high* *Diet* is often the occasion of *Fevers*, and in this *Case* the depraved *Chyle* is the *ferment*.

Many of the *colliquative Fevers* are cured by Nature's Evacuation of the depraved *Succus Nutritius* by *Stools*, *Vomiting*, *Sweating*, or *Spitting*, *Bleeding*; and the reason of these different Evacuations, is, because the *Succus Nutritius* is tinctured by some of the *Humours*, which ought to be secreted by the *secretory Glands* for that *Humour*; as *Choleric Vomits*, or *Diarrhœa's*, are by the *Liver*; *Phlegmatic Evacuations* by *Salivation*, or *Pancreas*; and *critical Evacuations* of *Blood* by the *Nose*.

In *Inflammations*, the *Fever* preceeding it depends on a *viscid Succus Nutritius*, which being all evacuated on any particular part, the *Fever* abates, which sufficiently intimates what was the *ferment* of that *Fever*.

A *Hectic Fever* is produced by the depraved *Succus Nutritius*, which, by reason of the *Viscidity* and *Saltness* of the *Blood*, cannot be assimilated to the *Mass*, but it becomes a *febrile Ferment*, and it is evacuated by *Sweats*, *Urin*, *Spitting*, and *Looseness*, and then the *Hectic Fit* is over, when the *Succus Nutritius*, which is the *ferment*, is wholly spent.

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The Matter of an *Apostemum* is the ferment of a *Hectic*; as in those of the *Liver*, *Lungs*, *Kidnies*; and this *Hectic* cannot be cured, without curing the *Imposthume*; but the former *scorbutic Hectic* must be cured by altering the *Viscidity* and *Saltiness* of the *Blood*, by frequent *Bleeding*, and diluting of it, by *Milk Diet*, or the *Chalybeate Waters*, *Decoction of the Woods*, *Emulsions*, *distilled Waters*, and leaving off *fermented Liquors*, *Pectoral Decoctions*, and using a *thin Diet*, most apt to mix with *viscid Blood*.

When I had observed, that all sorts of *Cacochymia's* were joyned with *Fevers*, I could not omit this Discourse about *Fevers*, as not impertinent to my Design, of describing the preternatural State of *Humours*. I will farther observe, that the several *Cacochymia's* depend not on the *Fever*, as an effect of it, though that, after some time, may produce some of them; as a *viscid*, *salt*, *vitriolic* or *putrid* State of *Humours*: but the *Fever* finds the *Cacochymia* in the *Blood*, which produces the Symptoms preceding the *Paroxysm*; as *Pains*, *Coughs*, *Vomitings*, *Gripes*, *Diarrhœa's*, &c. Hence it appears, that the antecedent *Cacochymia* depends on the same Causes, as at other times, when there is no *Fever*; but the *febrile Effervescence* agitates the *Cacochymia*, and

and thereby produces the *Evacuations*, or *Inflammations*, to which it pre-disposed the Patient. And these Symptoms require the same Method of Cure, as at other times, but Care must be taken because of the Complication with the *Fever*, that nothing may be done in Cure of the *Cacochymia*, which may prejudice the general Cure of the *Fever*.

The *Cacochymia* alters the Nature of the *Fever*, for a *pituitous*, *tartareous*, *serous* or *flatulent* *Cacochymia* depresses the *feverish Ebullition* too much; and for these, the Old Authors rationally used *Digestives* in *Fevers*, to correct the *Cacochymia*, and to raise the *Fermentation*, which is depressed by them, that the *Succus Nutritius* may be more easily digested, or putrefied, and, at last, by a *Crisis* separated from the *Blood*.

In a *bilious*, *rancid*, *salt* or *putrid* State of *Blood*, the *Fever* is generally too acute, and (unless in the *malignant Fever* or *Plague*) must be depressed by *cool Alteratives*, which are the *Digestives* or *Precipitators* in such *Fevers*; and this seems to be a general Rule in *Fevers*, that as the general Cure of the *Fever* must not increase the *Cacochymia*, so neither must the Cure of the *Cacochymia* either too much irritate

irritate or depress the *Fever*; but by *Bleeding*, *Vomiting* or *Purging* in the beginning, we abate the quantity of the *Cacochymia*, and, by *Digestives*, dispose it for a Separation from the *Blood*, which, at length, the *Fever* expells, with the depraved *Succus Nutritius*, or, at least, prepares it for a *Purgation* afterwards, which ought to respect the particular *Cacochymia's* after the *Fever*, as well as before.

If we consider the various Causes of a *Cacochymia* above-mentioned, we cannot believe but every body is inclined to some one or other of them.

We have some particular degrees of *Fermentation*, by which our *Humours* are prepared that arise to a particular quality, by which the Constitution is called either *pituitous*, *tartareous*, *flatulent*, or *serous*, if they be too cool, or else they are too hot, as the *choleric*, or *scorbutic*, *salt*, *viscid*, *vitriolic* or *putrid* Constitutions of our *Humours*. We have some of these from our Parents, and the Age, as it runs on, produces a various Temper of our *Humours*. In Children, the *Blood* is like the *Milk* they feed on, apt to turn fowre; and for that reason, *Vomitings*, *Gripes*, and *Loosenesses*, attend their *Fever*s, as well as *Coughs*, and

and *sore Mouths*, and *comatous* effects from the *Serosity* of their *Bloods*.

In the Middle Age, the *Blood* is *florid* and *salt*, by which, they of that Age are disposed to *Hæmorrhagies*, and all sorts of *Inflammations*, *Consumptions*, and the *hot Scurvy*, which are frequently complicated with *Fevers* in the Middle of our Ages; as *Pleurisies*, *Quinsies*, *Phrenses*, *Rheumatisms*.

In the Consistent Age, the *Blood* grows *vitriolic*, and produces *Dysenteries*, *Cancers*, *Cholera's*, *Melancholic Winds*, which, with *Lethargies*, *Apoplexies*, *Peripneumonia's*, are frequently, at that Age, complicated with *Fevers*.

In Old Age, the *feverish Ebullition* runs low, and it is most easily stopt with a smaller Dose of the *Cortex*; and since the *Saltiness*, *Viscidity*, and *vitriolic Acidity*, abounds in Old Men, as well as the *pituitous* and *serous Cacochymia*, they have some of the Diseases depending on them; but especially *Catarrhs*, and *Atrophy*, and *Pains* of the *Limbs*, are complicated with the *Fevers* of Old Men.

Particular *Cacochymia's* are not only produced by our several Ages, but also the different Seasons of the Year incline us to different *Cacochymia's*.

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The Winter disposes us to *Rheums, Pains, and Coughs*, which depend on too much *Serosity* retained, or stopt in the *Blood*; and the *Cold* checks the *Fermentation* of *Blood*, as well as other *fermented Liquors*, which hinders the thorough *Digestion* or *Fermentation* of *Humours*; from hence it appears, that Winter *Fevers* have *Coughs, Rheums, Pains*, and greater *Coldness* attending them, and are longer.

The sudden Alterations of *Hot* and *Cold* produces a *Siziness* of *Blood*, and makes the Spring attended with *Pleurisies, Rheumatisms, Apoplexies, Lethargies*, and *intermitting Fevers*, have then such Symptoms.

Cold is not so Injurious as the *Moisture* of the *Air*, which makes the *Transpiration* less, and the pressure of the *Air* also less; and, for this reason, *Fevers* frequently happen in *wet Weather*, with *Looseness, Headiness of the Senses*, and many inward *Inflammations*; as *Apoplexies, Quinsies, Epilepsies*.

In the *Spring* far advanced the *Blood* becomes more *heated*, and *choleric*, and then *Tertians* and *Erisipela's* are complicated with the *Fever* and *Hæmorrhagies*.

In the *Summer*, the *Blood* is more *rancid*, *salt*, *viscid*, and *hot*, and produces the highest *burning Fevers*, with *Vomiting*, *Diarrhœa's*, and *Inflammations*, and *sore Eyes*.

In *Autumn*, the *Blood* is most *vitriolic*, on which, *Quartans*, *Melancholies*, *Dysenteries* and *Epilepsies* much depend on.

This is the chief Season for the *intermitting Fever*, with which the preceeding Diseases are frequently complicated.

Since the late severe, cold *Winter*, it has been observed, that the *Blood* has been more *viscous* than usual; and it is not improbable that such a *Cacochymia*, may last some Years in the *Blood* of all Persons, which may, upon the Fit of a *Fever*, produce the *Rheumatic Pains*, and *Inflammations* lately observed in *Fevers*. It seems probable, that after some time this State of *Blood* may be altered to another of a different kind, as a *putrid*, and then we must expect a *pestilential Fever*. If there be a common *Epidemical State*, or *Cacochymia of Humours*, (which the *common Changes* of the *Air*, or the *Seasons* of the *Year*, or the *particular Digestion* of our *Diet*, or some *secret Effluvia* of the *Earth*, or *Mineral Tinctures* in our *Water*, may produce) as we must observe by some common *Distemper*, which seizes

seizes many every Year ; we may very well allow, that the same *Cacochymia*, which produces the *Epidemical Disease* every Year, should also occasion some particular Symptoms in the *intermitting, stationary Fever*, not unlike the Nature of the *Epidemical Disease*, as if that were complicated with the *Fever* ; so we may observe, that *Rheumatisms* have been frequent of late, and all our *Fevers* have *Rheumatic Stitches* very much.

It seems very probable, since the *Plague* visits us once in about Forty Years, which depends on a *putrid State of Humours*, that all the other *Cacochymia's*, which produce the several different kinds of *Fevers*, have also some kind of Revolution, in which they return also ; and when it is *mucilaginous*, the *Fever* is like a *Quotidian* ; when *tartareous*, it has *Cholical Symptoms* ; when *serous*, it is a *Catarrhal Fever* ; when *flatulent*, a *vertiginous Fever*, with *Windiness* in the *primæ viæ*, and *Running Pains* : but if the *Cacochymia* be *Choleric*, a *Tertian* is produced ; if *rancid, oyly*, a *scorbutic Fever* ; if *viscid*, *Rheumatic Pains* ; if *triolic*, *Quartans* are produced. These several *Cacochymia's*, and their *Epidemical Disease*, and *stationary Fever*, both depending on the same, may be observed every Year ;

Year; and by keeping an exact Account, we shall, in time, find what *Cacochymia* and *Fevers* succeed each other, and in what periods we may expect their returns, though, it is probable, we shall never discover the general Causes which introduce the several *Cacochymia's*, upon which all *Epidemical Diseases* depend.

APPENDIX

APPENDIX II.

An Introductory Discourse to the Treatise of the Asthma ; containing an Explication of the old Notion of the Defluxions of Humours, whereby the Asthma, and divers other Chronical Diseases, are produced.

ALL the Diseases which depend on a sudden preternatural *Motion*, or *Flux* of *Humours*, are produced either by an *intermitting Fever*, or an *Ephemeris*.

That most Diseases may be Symptoms of *Fevers*, does sufficiently appear to a diligent Observer of the *Phænomena* of *Fevers*, and they are described in the Books of our Modern Writers.

The particular *Cacochymia* in our *Humours* cannot produce the Symptoms of *Fevers*, without being rarified, impelled, or transmitted by *Defluxion* on some particular Part; and the Occasion of this *Flux*, the Ancients imputed to the *Intemperies* of some Parts, which was the *terminus à quo*, as the *Head* or *Liver*; but the true Cause of the *Defluxion* is an *Effervescence* in the *Blood*, and the *terminus à quo* is the *Blood* it self. The Vessels through which the *Flux* is carried, are, the *Veins*, *Arteries*, *Lymphatics*, and *Nerves*, and several *excretory Glands*. The *terminus ad quem*, is the Part affected with sudden Pains; as in *Rheumatisms*, or in sudden *Inflammations*; as in *Pleurisies*, *Quinsies*, *Peripneumonia*, &c. or sudden *Evacuations* of the *serous*, *nutritious* *Humours*, in *Vomitings*, *Diarrhœa's*, *Coughs*, *Sweats*, *Diabetes*, &c. or else by *Hæmorrhagies*; as *Hæmoptoe*, *Fluxus Mensium*; and most of the *Nervous Distempers* (like those of other *Glands*) depend on the Admission or Propulsion of *cacochymical Serum* into the *Nerves*; as in *Apoplexies*, *Lethargies*, *Carus*, *Epilepsies*, *Convulsions*, *Vertigo*, *Asthma*, *Palsies*, *Tympanies*.

All *Tumours* which rise suddenly depend on the *Defluxion* of *Humours* on that part in which they stagnate; as *Buboes*, *Erysipela's*, *Herpes*, &c. All

All the preceding Diseases are frequently the Symptoms of an *intermitting Fever*, occasioned by the *Fever's* agitating, or impelling a particular *Cacochymia* upon some Part. If this *Cacochymia*, which disposed the *Blood* to that particular Symptom, be evacuated, or altered by the *Fever*, none of those Symptoms remain ; but when the *Fever* is too soon suppressed, those Symptoms become *periodic, chronical Diseases*, or at least *Anniversary*, as appears in the *Asthma, Hemicrania, and other Pains, Inflammations, Convulsions, or Evacuations*, which have *periodic Fits* ; or, at least, return upon the Changes of the Year, or when any external Causes, or hot Medicines, occasion an *Effervescence* in the *Blood* : Then the Symptoms of the former *Fever* appear ; and the Cure of the *Defluxions*, depending on a suppressed *intermitting Fever*, is as followeth ;

1. We must evacuate the particular *Cacochymia* by *Vomits* and *Purges* ; and afterwards it is to be corrected by its particular *Specific Tastes*, which must either raise or depress the natural *Fermentation* of *Humours*.

2. The Disposition to a *Fermentation* must be stopt by a *Febrifuge*, as the *Cortex*, for that precipitates by its *Stypticity*, and

re-assimilates, by its *Bitterness*, the depraved *Nutritious Serum*, which is the immediate *Ferment of intermitting Fevers*.

A simple *Ebullition* of *Blood*, such as happens in *Ephemera's*, is sufficient to produce many *Defluxions* of *Humours*, in which there appears no *Putrefaction* of the *Succus Nutritius*, as in *putrid intermitting Fevers*, which we discern to be *putrid* by a *Precipitation* of a *high-coloured, thick Sediment* in the *Urin*, (which is of a *Brick Colour*, like *Blood* calcined, as Mr. Boyle observed) and we call the *Fever* *unputrid*, when the *Urin* is always *pale*, as in *Ephemera's*, without the former *Sediment*.

When only an *Ebullition* happens in a *cacochymical Blood*, the *Mass* is only agitated or rarefied, (in which is contained the *serous, salt Lympha*, the *Chyle* and its *Lympha*, and the whole *Succus Nutritius* of an *Animal*). This *chylous* or *serous* *Mixture* being lately fermented in the *Stomach*, is, of all the *Mass*, most readily fermented or rarefied; and, again, this *serous, nutritious Mass* is more readily circulated into the *Cutaneous*, or *remotest Parts* of the *Body*, than that *sanguineous* or *red Mass* of the *Blood*, or, at least, more easily secreted through the *Glands* and *Lymphatics*. This is the more immediate subject of an *Ephemera*; or rather an immediate

diate *Ferment*, or occasion of it, when it is an irritated *Ebullition* by inward Causes; as the Fulness, or *Acrimony*, of the *Cacochymia*, or depend on the abuse of the *Six Non-Naturals*. This *nutritious Serum* is not colliquated by the *Fever*, as Authors affirm, (*liquatur & funditur*) for that is only the effect of a pestilential *Putrefaction*; and the *Serum*, by a violent *Effervescence* in an *intermitting Fever*, becomes more *viscid*, and *thick*, which disposes it to precipitate, and *putrefie*; whereas, in an *Ephemera*, the gentle *Heat* can only occasion an *Effervescence*, as to rarefie the *nutritious Serum*, and drive it through the several *Strainers* of the *Glands*, which are appointed for the several *Cacochymia's*, with which it is saturated.

The Signs of these *Chronical Defluxions*, depending on an *Ephemera*, are, *pale Water*, like the *Healthful* at first, a gentle *Heat*, a general *Lassitude*, such as is observed in *wet Weather*, *Heaviness* in the *Head*, and an *Inclination to Sleep*, and great quantity of *Water*.

This *Effervescence* depends on the general Changes of the Year. The Alteration of the Weather then produces *irregular Fermentations* in our *Bloods*, as it does *Ebullitions* in *Wines*, and all other *fermented Liquors*; and also the Changes of the We-

ther at other times, when Rains succeed fair Weather, or the East or North Wind blows after warm Weather, which causes the same *Ebullition*, both in *Wines* and *Blood*; for by these, the Pressure of the *Air* is altered, the Transpiration of our *Bodies* is stopt, and the different degrees of *Heat* and *Cold* expand or check the *Rarefaction* of our *Spirits*, by which our *Bloods*, as well as all other *fermented Liquors*, are agitated, depurated, digested, or changed; and on these external Causes the sudden *Effervescence* of our *Humours* immediately depends; to which, the *Plenitude* of *Humours*, or their *vicious qualities*, *disorderly*, *hot Diet*, *too much Exercise*, *Passions*, or other Accidents, very much conduce, which also produce *Ephemera's*.

Those Parts of the *Body* are most usually affected with the *Flux* of *Humours*, through which *vicious Humours* ought to be evacuated, or to which the vitiated *Succus Nutritius* can most easily circulate, or where its Motion is most easily stopt, or most frequently; or the *Tone* of a Part vitiated by former Distempers.

Though the Occasion of the *Effervescences*, on which the *Defluxion* depends, be external for the most part, yet there is an inward Disposition in the *Blood* to an *Inflammation*.

Inflammation, which makes the *Blood* apt to impell its *cacochymical Humours* upon some Part. The several Species of these *Defluxions* I will enumerate, according to the Number of the several *Cacochymia's*, (which I have described in another Discourse of them) and their Complication with *Intermitting or Ephemera Fevers*.

First, If the *Blood*, abounding with a *pituitous Cacochymia*, effervesces, as in an *Ephemera*, it depurates its self from some of the *Laeternal Lympha* through the *Glands* of the *Mouth*, or *Lungs*, and, by that *Flux*, produces a *Catarrh*, or much *Coughing*, or *Spitting*, which is always complicated either with an *intermitting Fever*, or an *Ephemera*, which resembles the *Effervescence* in *Beer* or *Wine*, whereby they clear themselves of *Barm* or *Lees*.

I have observed a *Chin-Cough*, complicated with an *intermitting Fever*, which was cured by the *Cortex* after general *Evacuations*.

If the *pituitous Cacochymia* be transmitted to the *Stomach*, it produces *Nauseousness*, *want of Appetite*, a *pituitous Diarrhœa*, and *Cholicks*.

If it is evacuated into the *Trachœa*, or stagnates in the *Vesiculæ* of the *Lungs*, it

produces a *Dyspnæa*, as in the *Cachexies* of *Virgins*; in whom also it produces a *Pale-ness* in the *Skin*, and frequently *œdematous Tumours*, when the *Pituita* suffers a *Flux*, according to the Notion of the Ancients; that is, when it is suddenly evacuated through the *conglomerate Glands*, or impelled on some particular Part where it stagnates.

Secondly, If an *Ephemera* be raised in a *tartareous, acid Constitution*, on a sudden, *corrosive Pains* are produced on the *Mem-branes*, with *Fluxes* of the *Læteal Lympha*; as in *Pains* of the *Teeth*, and *Head*; or else *Gripes*, or *Pains* in the *Stomach*, are produced.

When the *Blood*, or *Chyle*, and *Læteal Lympha*, are tinctured with an *acid Caco-chymia* (whose chief vehicle they be) upon any accidental *Effervescence*, the *viscid Parts* of the *Serum*, or *sanguineous Mass*, may be precipitated by their own *Acidity*, (like *Milk* which is very *salt*, and turns into *Posset* by boiling); and such kind of *Coagulations* seem to happen in *Rheums*, *Fluxes of Urin*, *Dysenteria alba*, or in *scor-batic and melancholic Salivations*, or *Sweats*, or *Diarrhœa's*.

Thirdly,

Thirdly, If an *Ephemera* be produced by any external Cause in a *flatulent Cacochymia*, the *Blood* is tumultuously moved with sudden *Effervesences*, and a *crude* or *acid Windiness* distends the *Hypochondria*, as appears by a *Ructus* of the same Nature, *Wandering Pains* may be observed in the *Limbs*, *Noise* in the *Ears*, *Vertigo* in the *Head*; such are the Disorders which happen in *Hypochondriac* and *Hysterical Persons*, upon the least Occasion, which excites an *Effervescence* in their *Bloods*.

A remarkable Instance of *Windiness*, complicated with an *Effervescence*, may be observed in a *Priapism*, which always happens by the *Heat* of the *Bed*, by which the *Flux* of *windy Spirits* is made into the *Penis*; for such Patients usually complain of *Noise* in their *Ears*, of *nubming Pains* in the *Hands* and *Arms* in their *Sleep*, and their *Sides*, which goes off with a *prickling* and *tingling Pain* upon *Waking*; and as the *Erection* subsides, a *Noise* is heard in the *Belly*, and *Wind* breaks forth in a *Crepitus*, and a *Deadness* or *Numbness* remains in the Part, as well as many other Parts of the *Body*.

Fourthly, If the *Serous Cacochymia* be agitated by an *Ephemera*, *Tumours* happen in the *Limbs* suddenly, which are *pure*, *watery*,

watery, hydroical Tumours, or else the Serum is suddenly evacuated into the Cavities of the Head, Breast, Belly, Scrotum, or Testicles of Women, of which, Cases are mentioned by the Ingenious *Carolus Piso*, *de Morbis à serosâ colluvie*; but he seems mistaken in this Description of the Serum, as if it were only *Aqua pura puta*, because the Serum contains the nutritious, fibrous or caseous Parts of the *Chyle*, as well as its watery Elements. *Piso* mentions an *Hydrocephalos* which returned by *Fits*, and that cannot but depend on an *Effervescence* in the *Blood*; it was cured by him by *Purges*, and a *Lixivium* to wash the *Head*.

He also relates a Case of *Sleepiness*, with *Pains* on the *Head*, depending on a *serous Blood*; and that increased towards Night, which was cured by an actual *Cautery* applied to the hinder part of the *Head*.

He mentions a *Carus*, with a *Fever* depending on the *Serum* passing the *Brain*, to which Children are most subject; this was purged off the Ninth Day; and he believes *Nocturnal Convulsions* to depend on the *Serum* impelled into the *Nerves*.

The *conglobate Glands*, designed for the Passage of the *Serum*, are frequently swelled by an *Effervescence* depurating or impelling the *Serum*; and when the *Urin*, which ought

ought to be transcolated from the Serum by the Kidnies, is suppressed, a Sleepiness seizes the Head, or gripes the Belly from the Serum translated to that Part.

The great Quantity of Serum is usually imputed either to the Quantity of serous Diet, or the Retention of its Evacuation.

Fifthly, An *Ephemera* in a *bilious* State of *Blood* occasions the Jaundices, by a sudden Translation of the *bilious Serum* into the *Skin*, or else it is evacuated into the *Stomach* in a *Cholera*, or the *Intestines* in a *Diarrhœa*.

If the Serum be both *viscid* and *bilious*, it produces an *Erysipelas* with a *Fever*.

Piso describes an *Hemicrania*, which returns upon the Changes of the Year, and Alterations of the Weather, to wet, with *Vomiting* of *bilious Serum*, *Inclination* to *Sleep*, and *Convulsive Pains* in the *Belly*, and the *Pains* in the *Head* preceed those in the *Belly*; the *Pulse* and *Thirst* shew the *Fever*; and he concludes, *sudores sunt remedium Hemicraniae, prophylacticum, & præcipuum, & seri evacuatione, curatur*. An exquisite *drying Diet*, and an *Oxyrrhodine* applied to the *Head* helps much.

Sixthly, In a *scorbutic*, *salt Blood*, a simple *Effervescence* produces the *scorbutic Spots*, or

or *Blisters* in the *Skin*, which suddenly appear, and subside again, and all other *scorbutic Pains* depend on a sudden *Effervescence*, which make the *Urin* high-coloured.

In a *salt Blood* this simple *Effervescence*, usually called an *Ephemera*, produces divers *Pains* and *Inflammations*; as the *Tooth-Ach*, *Ophthalmia*, *Otalgia*, *Gout*, *nephritic Pains*, (which usually happen in Autumn) and a *Fever* usually goes along with all *Pains*, which excite *symptomatic Fevers*, and that is always referred to the Class of *Ephemera's*.

If the *salt Serum* be inclinable to *stony* or *sandy Coagulations*, an *Effervescence* of the *Blood*, tinged with that *Humour*, produces the *Gout*, and *stone Fits*. This *Effervescence* preceeds the *Gout* some Days, with a *Lassitude* in the *Limbs*, and *Heaviness* of the *Body*, and a *preternatural Heat*, *Watching*, *Thirst*, *Nauseousness*, and a *Dryness* on the *Tongue*. This *Effervescence* or *Fever* lasts usually 30 or 40 Days, which is the common Term of great *Fluxes* and acute *Fevers*. This *Fever* has *Exacerbations* towards Night, and remits in the Morning; but the Ingenious *Piso* thinks it to be *Febris imputris, synocha legitima, potius quam putris, quæ dolores arthriticos comitatur.*

The *Effervescence* in the *Blood* of *Gouty Persons* forces the *salt Serum* upon the *nervous*

vous Parts of the *Joynts*, through their *Glands*, whereby the acute *Pains* of the *Gout* are produced, and the *convulsive Cramps* preceeding the *Fit*. The *Water* is pale in the beginning, and afterwards *high-coloured*, with *thick Sediment*.

The *Fit* of the *Gout* is cured as usual. *Fluxes* depending on an *Ephemera*, by *Bleeding* once or twice, by *Glysters*, and *Opiates*, and by a *thin, spare Diet* for the three first *Days*, or a *perfect Abstinence*; but afterwards *Water-Gruel, Chicken-Broth, Sack-Posset-Drink*: After a *Week*, when the *Fever* and *Pain* decline, which will appear by the *Urin*. *Purging* agrees well, by some *Lenitive*; as *Decoc^t. Senæ*. An *Anodyne Poultess* at first must be laid to the Part, and afterwards *Discutients* and *Nervines* are necessary.

For the Preventing the *Fit*, frequent *Vomitings* once in a Month, *Purging* with *Rhubarb* three *Days* before the *Full* and *Change* of the *Moon*, and three *Days* after them. A *spare Diet*, and *Abstinence* from all *strong Liquors*, with *moderate Exercise*, are absolutely necessary.

All *hot Arthritics* are *Injurious* in the *Fit*; as *Theriaca, Sp. C. cervini, Guaicum*: And it is a general *Errorr* of *Practisers*, to prescribe *hot Specifics* during the *Effervescence*, which occasions a *Defluxion*; but they are
more

more properly used in the *Intervals* of the *Fit*, to correct the *Cacochymia*; and we find too long use of them occasions a new *Effervescence* and *Defluxion*. *Bitters* help the *Digestion* of the *Arthritic*; and *Drinking Bath-Waters* cures the *Saltiness* of their *Bloods*; or else *Asses Milk* alters the *Saltiness*.

Seventhly, If the *Serum* be both *salt* and *viscid*, and by any Accident *effervesces*, *Hæmorrhagies* are produced at the *Nose*, *Lungs*, *Arms*, *Womb*, which are accompanied with a *feverish Effervescence*. And we may observe, that *Bleeding*, the *Cortex*, *Opiates*, and cool *antiscorbutic Juices*, and *Abstinence* from fermenting *Liquors*, by abating the *Fever*, cure more successfully than any *Styptics* whatsoever.

If the *Effervescence* be in a *viscid Blood* only, it produces *Rheumatisms*, *Pains* of the *Hips*, *Shoulders*, *Loins*, *Knees*, *Head*, as in the *Hemicrania*; but that of the *Muscles* generally is called a *Rheumatism*; but if it fall inwardly, it is a *Pleurisie*, or *Peripneumonia* when it affects the middle *Region*; if on the *Kidneys*, it makes a *Nephritis*; if on the *Brain*, externally a *Lethargy*, or more internally an *Apoplexy* on the *Nerves*, a *Paralysis* on the *Guts*, a *Cholic*, on the *Eyes* *Ophthalmia*, &c. In all the fore-mentioned Cases

Cases there is an *Effervescence* preceding the *Pains* and *Inflammations*, as appears by the *Chillness* and *Shivering* which first seizes them in the beginning of those Diseases, which soon are succeeded by *burning Heats*, *high-coloured Water*, and *quick Pulse*.

Eighthly, A febrile Effervescence in a melancholic or vitriolic State of Blood, is the Occasion of the following Diseases.

1. *Hot Pains, and Windiness in the Stomach and Guts, from a hot Windiness.*

2. *Pains in the Spleen, and Sides, and Limbs, from a windy Spirit.*

3. In the *Nerves* the *windy Spirits* produce *Palpitations* of the *Heart*, *want of Sleep*, *Sinking* of the *Spirits*, and divers kind of *Convulsions*; as *Hysteric Fits*, *Epilepsies*, and all the *Inflations* of the *Nervous Parts*; in the *Asthma*, *Tympany*, *Ephialtes*, *Priapismus*. All which depend on a simple *Ebullition* of *Humours*.

The immediate Cause of the *Asthma*, is the *Constriction* of the *Trachæa*, or *Bronchia*, which freightens the *Passage* of the *Air*, and produces the *Wheezing*; and the *Vesiculæ* of the *Lungs* being also contracted, a *laborious Inspiration* is necessary to force the *Air* into the *Lungs*.

There

There being no *Tumour*, *Inflammation*, or *Pain*, in the *respiratory Muscles*, they cannot occasion the *Asthma*; but in pure *convulsive* Cases, in which they often produce a *Dyspnæa*.

The *Fit* of the *Asthma* happens suddenly, through the *Effervescence* of *Blood*, occasioned by external Causes, which separate the *Lympha Lætea* from the *Blood*, and that stops in the *swelled Glands* of the *Lungs*, and is at length evacuated into the *Trachea*. In the *spitting Asthma*, and in the *Hysteric*, the *Serum* of the *Blood* seems to be forced into the *Nerves* by this *Effervescence*; or into the *Lymphatics* of the *Lungs*, where, by *Stagnation*, it may irritate the *Fit*.

Though the *Water* be *pale*, and the *Pulse* *low*, and the *Extremities* *cold*, yet the *Asthmatic Fever* is evident, for they have an *inward Sense of Heat*, and great *Restlessness* of *Spirits* in the *Fit*. *Cælius Aurelianus* observes, in his Description of the *Asthma*, the *Fervor Igneus*, and a *Color Morbidus*, though the *Asthma* is not always joyned with a *Fever*. I have observed the *Asthma*, frequently joyned with an *Inflammation* of the *Lungs*, or *intermitting Fever*, and at all other times with an *Ephemera*, which appears by the general *Lassitude*, *Oppression* of the *Breast* and *Head*, want of *Sleep*, *Thirst*, and those Causes which excite

an *Ephemera*, produce the *Asthma*; as *extream Heat* or *Cold*, the *Dog-Days Heat*, in which *Wines* are apt to ferment; and whatsoever produces an *inflammatory Disposition* in the *Blood*, produces the *Asthma*; as *high Diet*, *strong Wines*, all *hot Pectorals*, or *Digestives*, or *anti-Convulsive Medicines*, *Steel*, or *strong Purges*; *hot Diaphoretics*, or *Febrifuges*, which, by exciting an *Effervescence*, increase, and produce the *Asthma*, and cannot cure it: But whatsoever cures the *Ephemera*, cures also the *Asthma Fit*; as *Bleeding*, *Clysters*, *Opiates*, *cool Pectorals*, with *Ol. Sulphuris*, *Sal Prunell. Gas Sulphuris*, *Milk-Waters*, *thin Emulsions*, *Ptysans*. For the Preventing a new *Fit*, these Two Indications must be respected.

1. To cure the *mucilaginous*, *serous* and *flatulent Cacochymia* by *Vomits*, *Purgers*, and *Digestives* of *specific Tastes*, contrary to the mentioned *Cacochymia's*; as *Alteratives*, or *Diuretics*, or *Sudorifics*, as *Decoction of the Woods*.

2. To prevent the sudden *Effervescence* of the *Blood*, by avoiding *Fulness*, and *Variety* of *Meats*, and all *strong*, *fermented Liquors*, which produce frequent *Effervescences* of our *Humours*; and to remember *Piso's Caution*, *Parcissime Bibendum*; for after Drinking our *Horses* are most *Asthmatic*; and for Avoiding the Watering of them, we wet their *Hay*.

Those cool *Febrifuges*, which cure the *Effervescence* in the *Fit*, seem proper to prevent the Return ; but we must not always rely on the *Cortex*, for that does not succeed so well in the *Spitting*, as *hysterick Asthma* ; but, in many Cases, a Draught of fair Water with a *Toast*, or a Draught of *Pectoral Drink* with *Gas Sulphuris*, three Days before the New and Full Moon, and three Days after them, maybe given in the Morning to prevent the *Fit*.

Sarsa Drink and *Lucatellus's Balsam* best cleanse the *Lungs* in the *spitting Asthma* after the *Fit*.

If an *Inflammation* of the *Lungs* be joyned with the *Asthma Fit*, Bleed three or four times, give *Emulsions*, *Pectoral Drinks*, *Oyly Mixtures*, and *Laudanum*, and a *Decoction* of the *Cortex*, which may be mixed with that of the *Pectoral Drink* ; and *Gas Sulphuris* a Spoonful may be given in a Draught of *Pectoral Drink* to cool. After fourteen Days *Purge* with *Decoct. Senæ* and *Manna* ; after which repeat the *Laudanum* and *Cortex* again ; and, at last, for *Cleansing* the *Lungs*, *Lucatellus's Balsam*, and *Decoct. Sarsæ* ; and this Method I have found very successful.

All other *Asthma's* depending on the *Tubercula* of the *Lungs*, or *Collection* of *Matter*, *Serum*, *Blood* in them, or the *Cavities* of the *Breast*, as also that on the *Gibbosities*, or *ill Formation* of the *Thorax* in the *Rickets*, or *Tumours*

Tumours of the *Viscera*, are improperly called *Asthma's*.

Though they produce an *Ephemera* by Stopping the *Nutritious Serum* in its Circulation, yet they have an evident Cause which requires to be removed before they can be cured.

Children subject to *Rheums*, with *scabbed Heads*, if that be ill cured or repelled, they become *Asthmatic*, with *Returning Fits* about the *Solstices* and *Æquinoctials*. In this Case all the Methods for *Scald Heads* must be used; as *Decoct. Sarsæ, Mercu. Dulcis, Bath-Waters, Sulphur Medicines, Vitriolic Waters*; but these generally dis-agree with the *Asthmatic*; and by giving them a *Catarrh*, produce the *Fit*; and much Drinking of *Fountain-Water* produces *Dropsties* in the *Lungs*, to which they are subject.

Ammoniacum Medicines, used to some Ounces, much help the *Viscidity* of a *mucilaginous Slime* in the *Lungs*; but that, and the *Cortex*, has failed me, when the *Blood*, by an accident, as the Use of the *Bath*, is made more than ordinary prone to an *Effervescence*; and all *high Diet* and *strong Liquors* make all *Specifics* ineffectual, till the *Aptitude* to an *Effervescence* be taken off by *Bleeding, Vomiting, Purging*, or, above all, by a *cool, thin Diet*, and Abstaining from *fermented Liquors*,

by which Method, my *Asthma* has intermitted three or four Months, which before was rather irritated by all other Medicines this Winter.

The Anointing the *Breast*, and keeping it *hot*, or *rubbing* it, and *Cupping-Glasses*, and all *hot Medicines*, were the *Errours* of the *Ancients*; but, as the *Fit* declines, the *Pectorals* are necessary to deterge the *Phlegm*; and the *Drymphagia*, which *Cælius Aurelianu*s mentions, is very proper to help *Expectoration*. He commends *Acetum Scylliticum* before *Meat*, and *Nitre* with *Vinegar*, *Decoction* of *Hyssop* and *Figs*, *Pine-Nuts* with *Mulsum*, *Turpentine* with *Honey* or *Nettle-Seeds*, or *Cress-Seeds* with *Honey* or *bitter Almonds*.

He recommends *Travelling* or *Navigation*, the *Drinking Bath-Waters*. In *Italy*, they use *Iheriacæ Antidotum*. And he also recommends the *cold Immersion*, *Utilis consuetudo frigidæ lavacri, quam Pseucrolusian appellant*. He mentions *Cataclysmus sive illisso aquarum superne iisdem locis, qui patiuntur*. But though the *Pumping* of the *Breast* may give the *scorbutic* or *hypochondriac* *Symptoms* some *Ease*, yet they rather do *Injury* for the *future*. He orders the *Asthmatic*, *Facere altioribus stramentis, thorace & capite sublevato, loco lucido atque calido mediocriter. Adhibitâ requie & abstinentiâ cibi usque ad tertium diem si vires permiserint*. He dislikes *strong Purges* of *Dia*-
grydium,

grydium, and the *Spurges*. He mentions *Castor* to be used in and out of the *Fits*, which probably they used for the *hysteric Asthma*; but that, I fear, cannot cure them without *Laudanum*, and the *Cortex*.

I believe the *Old Oxymels*, with proper *Evacuations*, have cured more *Asthma's* than the *Moderns*, by their *anti-Convulsives*; for the Notion of the *Asthma*, being a *Defluxion* of *Humours*, when clearly stated, gives very true and useful *Indications*; whereas the *Convulsive Inflations* are Symptoms of the *Effervescence* only; and all the Medicines designed for the Cure of the *Convulsive Symptoms*, by increasing the *Effervescence*, occasion more frequent *Fits* of the *Asthma*, and cure none.

Ninthly, An *Ephemera*, in a *putrid State* of *Blood*, produces the *Impetigo*, *Scab*, *Scald Head*, which are, by an *Effervescence*, thrown into the *Skin Spring and Fall*, as common Experience informs us.

The Cure of the *simple Effervescence*, which is generally called an *Ephemera*, though it sometimes lasts Thirty or Forty Days, is in the following manner.

I. By *Bleeding*: for *Vessels* full of *Liquors* are most apt to ferment; and, therefore, upon the *Fermenting* of *Wines*, we draw off some of the *Liquor*; and for Preventing the *Ebullitions*,

tions, some part of the *Vessels* is left empty ; and the same effect *Bleeding* has, which is done in proportion to the *Fulness*, and by that we check *Fluxes*, *Pains*, *Inflammations*, which depend on the *Ebullition* of our *Humours*.

II. By *Glysters* : at first the *fermenting Mass* in the *Guts* is drawn off, which resembles the *Lees* in *Wines*, that occasion frequent *Fermentation*s.

III. *Specific Purges*, (after seven, eight, nine or fourteen Days) when the *Ebullition* remits, are necessary to evacuate the *Fulness* of some particular *Cacochymia*.

IV. All *Diuretics* ought to be cool ; as *Decoct. Pectoral*, *Rad. Graminis*, *Cichorei*, *Liquiritiae*, *Decoct. Sarsæ*, *Chinæ*, *Ras. Eboris*, *C. cervini*, *Emulsions*.

All hot *Specifics* irritate the *Fever*.

V. *Ante-febrile Medicines* check the *Ebullition*. As,

1. *Styptics*, which hinder the *Ebullition* of *Blood*, as well as the *Fluxes* of *Humours*. *Decoct. Corticis* mixed with any *specific Decoctions*. The *Powder of Acorns* allays the *Pains* and *Inflammations* in *Pleurishes*.

2. *Acids*, *Ol. Sulph. cum Conserv. Ros. Gas Sulphuris*, *Sal Prunell.* in *Pectoral Drinks*.

3. *Opiates*, which suppress the *expanded Spirits*, that produce the *Nervous Inflations*.

VI. All

VI. All *Pains* must be treated with *Anodynes*, and *Tumours* discussed; and *Fluxes* stopped by proper *Specifics*.

VII. The *Diet* must be *thin*, such as is in *Fever*s; or perfect *Abstinence* for one or two *Days* is very necessary to cure the *Effervescence*.

For the Preventing the return of these *Effervescences*.

1. The *Cacochymia* must be evacuated by *Vomits* repeated Monthly, or Quarterly; by *Purges* once in fourteen *Days*, and an *Opiate* the *Night* after; by *Bleeding* Spring and Fall; by a long use of *Specifics*, for the several *Cacochymiae*: And *moderate Exercise*, and a *cooling, spare Diet*, is necessary to prevent that *Fulness* of the *Succus Nutritius* which produces the *Ebullition* in *Chronical Cases*.

2. The *inflammatory Disposition* of the *Blood*, and its *Effervescence*, must be checked by the *cool Febrifuges* above-mentioned; by the *Decoction* of the *Cortex* at the *Changes* of the *Year*; or that of the *Moon*, when the *Fluxes* or *Fits* usually happen; or *Gas Sulphuris* for three *Days* before and after the *Changes* of the *Moon*, when the *Alterations* commonly happen in the *Weather*, which excites the *Effervescence*, and especially in the *extream hot Time* of the *Dog-Days*, when *Wines* are most apt to ferment, and when
the

the *intermitting Fevers* begin; and, by the Observation of all *Asthmatics*, that is the worst time of the Year for the *Asthma*.

The *inflammatory Disposition of the Blood* is best cured by the *cool Juices of Herbs*; as *Dandelion*, *Brooklime*, *Sorrel*, *Water-Cresses*, *Milk-Waters*, *Sarsa-Drinks*, *Whey*, *Milk* and *Water*, Abstaining from *Mault Drinks*, or by the *cold Immersion*.

3. The *Tumour* of any Part, or the *Obstruction* in its *Vessels*, or the *Weakness* of its *Tone*, must be cured, that it may become less subject to *Defluxions*.

4. All *external Accidents* must be avoided, which may excite an *Ephemera*; but chiefly *hot Diet*, *strong Drinks*, and *Tobacco*; and, if possible, all *fermented Liquors*, and *full Meals*, and *Changes of Weather*.

F I N I S.

